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COAST GUARD RESEARCH AND DEVELOPMENT CENTER GROTON CONN F/G 13/10  
CUTTER RESOURCE EFFECTIVENESS EVALUATION MODEL. VOLUME III. UTI--ETC(U)  
JUN 77 A PASSERA, D S PRERAU, C W PRITCHETT  
CGR/DC-17/77 USC6-D-47-77

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- Row 1:** Includes a large flowchart on the left, a map of a coastal area, and several tables.
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REPORT NO. CG-D-47-77

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CUTTER RESOURCE EFFECTIVENESS EVALUATION MODEL  
VOLUME III - UTILIZATION OF THE CREE MODEL

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June 1977

FINAL REPORT



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Prepared for  
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**UNITED STATES COAST GUARD**  
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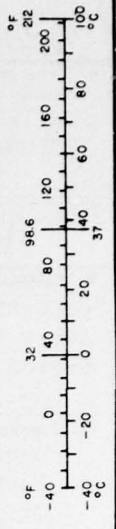
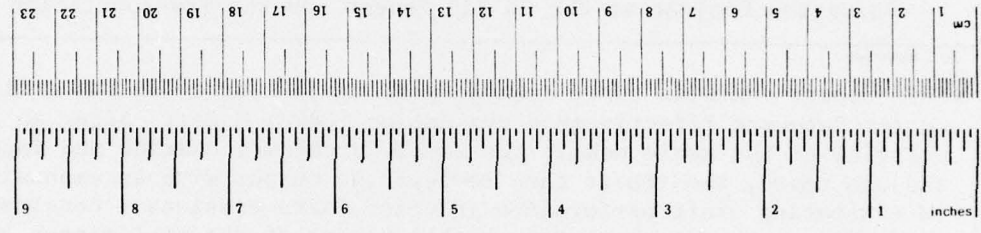
1. Report No. <b>18</b> <b>19</b> USCG D-47-77		2. Government Accession No.		3. Recipient's Catalog No.	
4. Title and Subtitle <b>6</b> CUTTER RESOURCE EFFECTIVENESS EVALUATION MODEL. VOLUME <b>III</b> . UTILIZATION OF THE CREE MODEL. <b>11</b>				5. Report Date June 1977	
7. Author(s) <b>10</b> A. Passera, D. S./Prerau → C. W./Pritchett <del>and</del> F. M./Hamilton				8. Performing Organization Report No. <b>14</b> CGR/DC-17/77	
9. Performing Organization Name and Address USCG R&D Center                      Transportation Systems Center Avery Point                              Kendall Square Groton, CT 06340                      Cambridge, MA 02142				10. Work Unit No. (TRAIS)	
12. Sponsoring Agency Name and Address Department of Transportation U. S. Coast Guard Office of Operations <b>12</b> 258p. Washington, DC 20590				11. Contract or Grant No. None	
15. Supplementary Notes This report is one of a series which documents the Cutter Resource Effectiveness Evaluation Project at the CG R&D Center and the Transportation Systems Center.				13. Type of Report and Period Covered FINAL REPORT. June 1975 - June 1977	
16. Abstract This report contains three example problems illustrating the utilization of the Cutter Resource Effectiveness Evaluation (CREE) Model. After an introductory overview of the whole model, the sample problem scenarios and input are presented and discussed, the report then reviews the output with an emphasis on its utility in evaluating craft performance in Coast Guard missions. Conclusions on craft performance are not presented in this report of the preliminary exercising of the CREE Model. Only comments on the validity and utility of the CREE Model output and a description of possible areas of improvement are presented.					
17. Key Words advanced marine vehicles, watercraft assessment, evaluation mission analysis, operations analysis modeling			18. Distribution Statement Document is available to the U. S. public through the National Technical Information Service, Springfield, Virginia 22161		
19. Security Classif. (of this report) UNCLASSIFIED		20. Security Classif. (of this page) UNCLASSIFIED		21. No. of Pages 258	22. Price

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## METRIC CONVERSION FACTORS

Approximate Conversions to Metric Measures			Approximate Conversions from Metric Measures					
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<b>LENGTH</b>								
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yd	yards	0.9	meters	m	meters	3.3	feet	ft
mi	miles	1.6	kilometers	km	kilometers	0.6	yards	yd
<b>AREA</b>								
m <sup>2</sup>	square inches	6.5	square centimeters	cm <sup>2</sup>	square centimeters	0.16	square inches	in <sup>2</sup>
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yd <sup>2</sup>	square yards	0.8	square meters	m <sup>2</sup>	square kilometers	0.4	square miles	mi <sup>2</sup>
mi <sup>2</sup>	square miles	2.6	square kilometers	km <sup>2</sup>	hectares (10,000 m <sup>2</sup> )	2.5	acres	ac
<b>MASS (weight)</b>								
oz	ounces	28	grams	g	grams	0.035	ounces	oz
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<b>VOLUME</b>								
tsp	teaspoons	5	milliliters	ml	milliliters	0.03	fluid ounces	fl oz
Tbsp	tablespoons	15	milliliters	ml	liters	2.1	pints	pt
fl oz	fluid ounces	30	milliliters	ml	liters	1.06	quarts	qt
c	cups	0.24	liters	l	liters	0.26	gallons	gal
pt	pints	0.47	liters	l	cubic meters	35	cubic feet	ft <sup>3</sup>
qt	quarts	0.95	liters	l	cubic meters	1.3	cubic yards	yd <sup>3</sup>
gal	gallons	3.8	cubic meters	m <sup>3</sup>				
ft <sup>3</sup>	cubic feet	0.03	cubic meters	m <sup>3</sup>				
yd <sup>3</sup>	cubic yards	0.76	cubic meters	m <sup>3</sup>				
<b>TEMPERATURE (exact)</b>								
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature	°F



\*1 in. = 2.54 inches. For other exact conversions and more detailed tables, see NBS Mon. Publ. 286, Units of Weights and Measures, Price \$2.25, SD Catalog No. C1111286.

## PREFACE

This volume is one of a series which collectively documents the Cutter Resource Effectiveness Evaluation Project. The complete documentation includes the following:

- Executive Summary
- Volume I: Analysis and Synthesis of Coast Guard Programs
- Volume II: The Evaluation of Craft Performance in Coast Guard Programs
- Volume III: Utilization of the Cutter Resource Effectiveness Evaluation Model
- Users/Programmers Guide to the Cutter Resource Effectiveness Evaluation Computer Program

The study was requested in August 1974 by the Office of Operations and until August 1975 was directed by CAPT C. L. BLAHA, Chief, Plans and Programs Staff. Subsequent efforts have been directed by CAPT P. M. JACOBSEN, Chief, Plans and Programs Staff. The initial Project Monitor in G-OP staff was Mr. P. J. D'ZMURA. Since October 1975, LCDR B. C. MILLER of the G-OP staff has been Project Monitor. The Project Office in G-DOE-2 has been CDR A. TURNER.

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## 1.0 INTRODUCTION

### 1.1 Technical Overview

To determine the potential for utilization of HPWC (High Performance Watercraft) and conventional craft in Coast Guard missions, an analytical model addressing both the job to perform and capability of various resources has been developed. This model, called the CREE (Cutter Resource Effectiveness Evaluation) Model," is made up of three major elements as shown in Figure 1-1 and listed as follows:

- a. Concepts of Operations
- b. Craft/Task Evaluations
- c. Scenario Calculations

Broadly speaking, the Concepts of Operations element is concerned with the job to be performed and the method of craft deployment. This is where the operational requirements are specified, various craft and suitable methods of deployment are chosen, and task-oriented scenarios are constructed.

The Craft/Task Evaluation element of the CREE computer program consists of three sections that eventually provide a numerical evaluation of craft performance of a task. The first section, called CHAR (Craft Characteristics), takes the craft concept specified in the Concept of Operations and determines typical detailed characteristics of that craft. The second section, called PARAM (Parameter), uses these craft characteristics coupled with various operational requirements from the Concept of Operations, and calculated dimensionless numerical values (parameters) indicative of the craft's performance in a variety of areas, such as maneuverability at various operational speeds, towing ability, and seakindliness, to cite a few. These parameters form the input for the third section, the TPOS (Task Probability of Success), which calculates the success of craft performance of a task. The outputs of the Craft/Task Evaluations element are numerical values indicative of how a given craft performs the given tasks with the specified operational requirements.

Finally, the Scenario Calculations element addresses the effectiveness of the craft performing in a larger arena - that of complete sorties or missions, in either single or multi-program scenarios. Since scenarios are made up of tasks, like search, tow, board or transit, and since craft performance of tasks is quantified in the Craft/Task Evaluations element, the Scenario Calculations element utilizes this Craft/Task Effectiveness output. These calculations are accomplished in the PROPOS (Program Probability of Success) element of the CREE computer program, which has as its output, values for craft mission success for the specified Operational Requirements.

### 1.2 Organization and Content

This volume of the Cutter Resource Effectiveness Evaluation Report illustrates the utilization of the CREE Model, by presenting three sample

**OVERVIEW OF CUTTER  
RESOURCE EFFECTIVENESS  
EVALUATION MODEL**

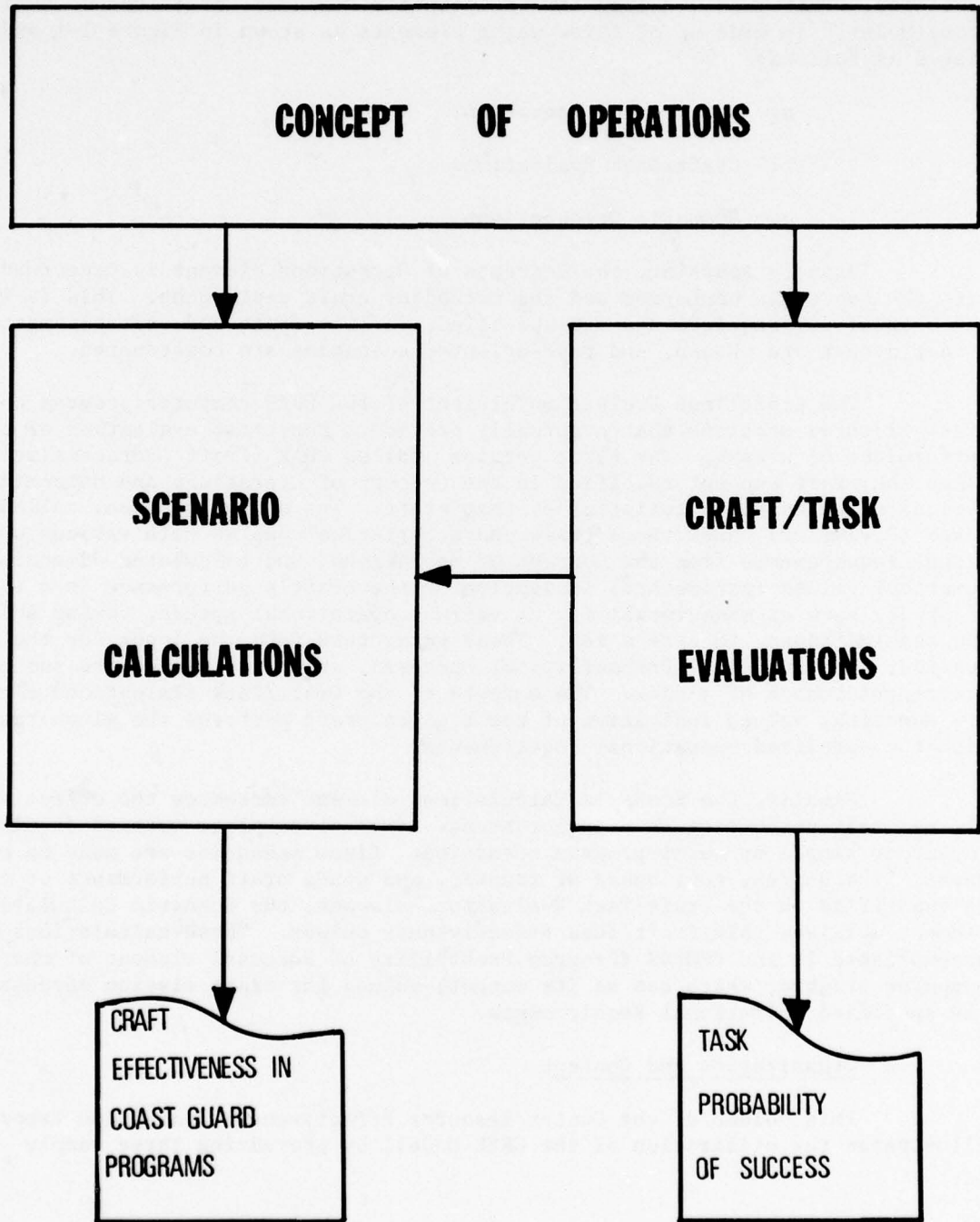


FIGURE 1-1

problems using three basic scenarios with a variety of craft and operational requirements. The purpose in this exercise is to further document the CREE Model and not to analyze Coast Guard Programs or to evaluate craft performance. Such actual use of the CREE Model to assist on any decision-making processes is not within the scope of this project.

Volume I of this report addresses Concepts of Operations or the discussion of the details in setting up any particular problem for subsequent solution by the CREE Model while Volume II contains the technical rationale of the evaluation procedure used in the CREE Model.

### 1.3 Sample Problem Formulation

Three different Coast Guard Programs and a variety of craft were chosen for this initial utilization and presentation of the CREE Model. It is emphasized at the outset, however, that the purpose of these examples is merely to provide the prospective users of the model with a familiarization of the CREE Model setup, operation and results. The intent is not to model and depict these programs in the most detailed and precise fashion, but rather in a simplified yet accurate manner that is more conducive to achieving an indepth understanding of the workings of the CREE Model. Users are free to develop their own scenarios and operational requirements to model Coast Guard Programs as they see fit. This is the value of the CREE Model; flexibility.

Scenarios were constructed for the Programs of SAR (Search and Rescue), ELT (Enforcement of Laws and Treaties), and a combination of PSS-MEP (Port Safety and Security and Marine Environmental Protection). Almost every Function Task Group\* contained in the model was used in assembling these three scenarios with the thought in mind of exercising and illustrating the complete model. The selection of craft, the operational requirements and the miscellaneous details of the scenario were selected by the authors to reflect reasonable and realistic ways of doing business.

Table 1-1 summarizes the sample problem formulation by listing the various craft evaluated and the operational requirements for the three scenarios utilized in this exercising of the CREE Model.

---

\*A familiarization with the content of Volumes I and II of this series of reports is assumed. Refer to Volume I, Section 3.2, Functional Task Groups, for a discussion of this particular subject.

TABLE 1-1

SUMMARY OF INFORMATION FOR SAMPLE PROBLEMS

CRAFT TYPES, SIZES, SPEEDS	SAMPLE SAR SCENARIO		SAMPLE ELT SCENARIO		SAMPLE PSS/MEP SCENARIO	
	CASE	CASE	CASE	CASE	CASE	CASE
	A V T V I O G Z W	A V T V I O G Z W	A V T V I O G Z W	A V T V I O G Z W	A V T V I O G Z W	A V T V I O G Z W
	SS	SS	SS	SS	SS	SS
32' PWB					1 VG 1	2½ G 1
ACV 15 ton 50 Knots					1 VG 1	2½ G 1
41' UTB					1 VG 1	2½ G 1
HYBRID 25 ton 35 Knot					1 VG 1	2½ G 1
CATAMARAM 95' 40 Knot	2 VG 4	4 G 4				
95' WPB	2 VG 4	4 G 4				
PLANING 100' 40 Knot	2 VG 4	4 G 4	3 G 1	4 F 1		
HYDROFOIL 100' 50 Knot			3 G 1	4 F 1		
SES 125' 40 Knot	2 VG 4	4 G 4				
ACV 200 ton 60 Knot			2 G 1	4 F 1		
210' WMEC			3 G 1	4 F 1		
270' WMEC			3 G 1	4 F 1		
SWATH 20000 tons 20 Knot			3 G 1	4 F 1		

Notes:

- (1) Sea State expressed as average; towing expressed as Distribution number
- (2) Visibility: F-Fair, G-Good, VG-Very Good
- (3) Depth Distribution constant for all scenarios

## 2.0 CREE MODEL INPUTS

The following discussion describes the details of the sample problems used in exercising the CREE Model.

### 2.1 SAR Program Sample Problem

To illustrate the utilization of the model in single unit SAR operations, a coastal region was selected for the SAR scenario's area of operations. The SAR activity was simplified considerably and modeled as two distinct types of operations, namely (1) a response to distress calls and (2) a routine patrol with a provision for the craft to respond to emergencies from the patrol area.

The SAR scenario is depicted in the geographical sketch on Figure 2-1 and detailed in a flow chart format in Figure 2-2.

The routine patrol, as depicted in Figure 2-2, assumes there will always be a SAR case requiring Coast Guard assistance while the craft is on patrol. After providing this assistance, the evaluated craft will either steam to homeport (assuming that the day's patrol is complete) or the craft will escort or tow the distressed vessel, or carry survivors back to port.

The response to a distress call while on routine patrol is depicted in this flow chart scenario by the leg or path from Node 8 to Node 3. The high speed response or the Dash Task is contained in Steam Group Number 1503 (third occurrence of Group Number 15), which is illustrated in Figure A-9 in Appendix A.

The response leg of the SAR scenario incorporates a search, seen as by Function Task Group 1001 in Figure 2-2. With this search, there is a possibility of finding or not finding the distressed unit depending upon the characteristics of the craft being evaluated and the specific details of the SAR case. These details are chosen by the user, and for this example can be seen in Figure A-6, Functional Task Group for Search Distressed Unit. Failure to find the distressed unit results in the evaluated craft returning to homeport. Finding the distressed unit results in the rendering of assistance as in the routine half of the SAR scenario.

The specific operational requirements concerning times, distances and search details can be seen in the SAR Functional Task Group Worksheets for this scenario in Appendix A, Figures A-1 through A-10. Two combinations of sea state and visibility were chosen for this SAR scenario, first, an average sea state 2 with very good visibility, and secondly, an average sea state 4 with a good visibility. The decision of path probabilities chosen for each leg can be seen in Figure 2-2, SAR Flow Chart Scenario, and are 0.7 for the response activities and 0.3 for the routine patrol. The maximum sortie duration was set for 12 hours for this SAR scenario.

Towing Distribution Number 4, which represents a normal towing workload, was chosen for this SAR scenario. Depth Distribution has not been fully developed and is set at Distribution Number 1 (no effect) for all sample scenarios.

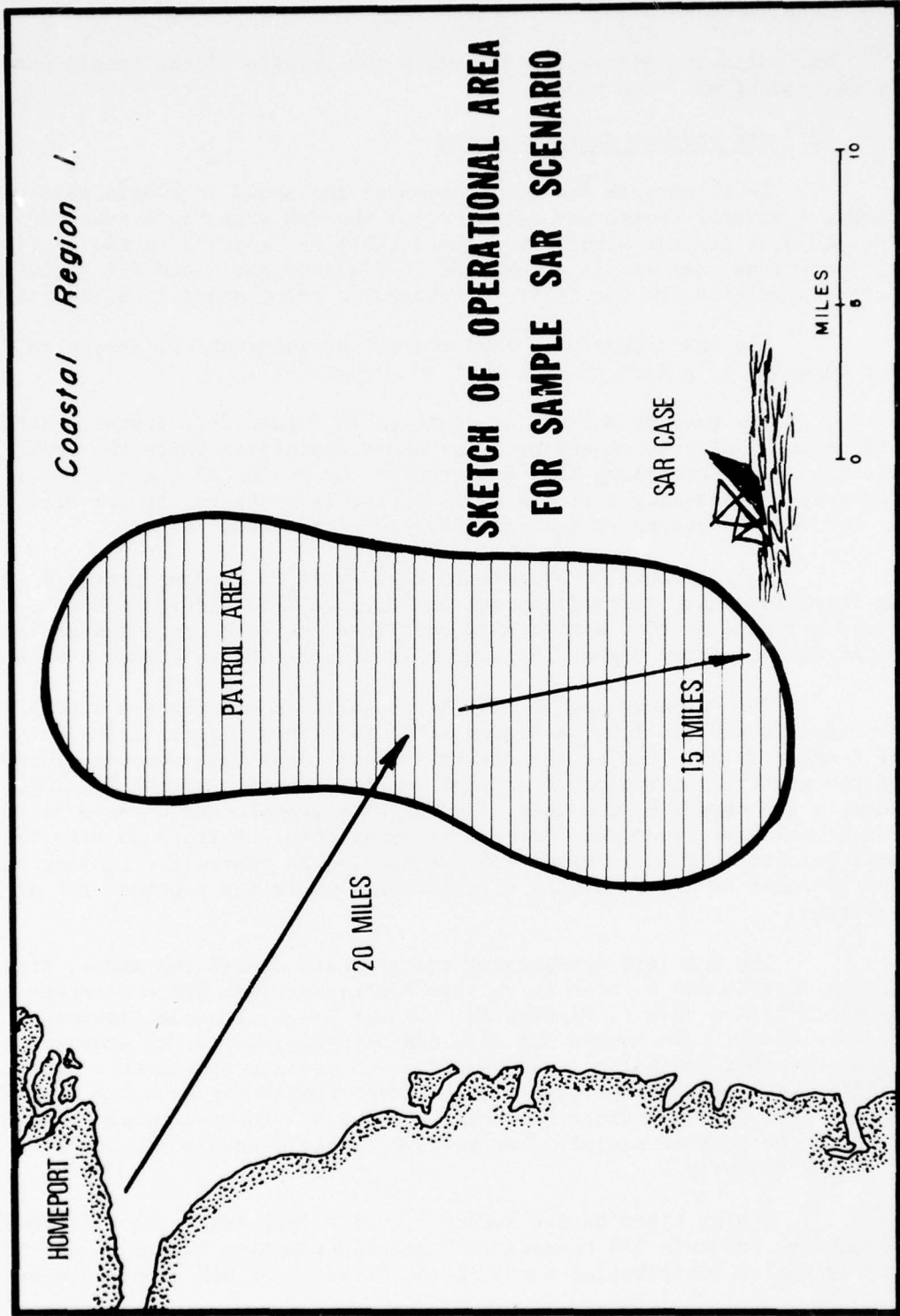


FIGURE 2-1

# SAR SCENARIO

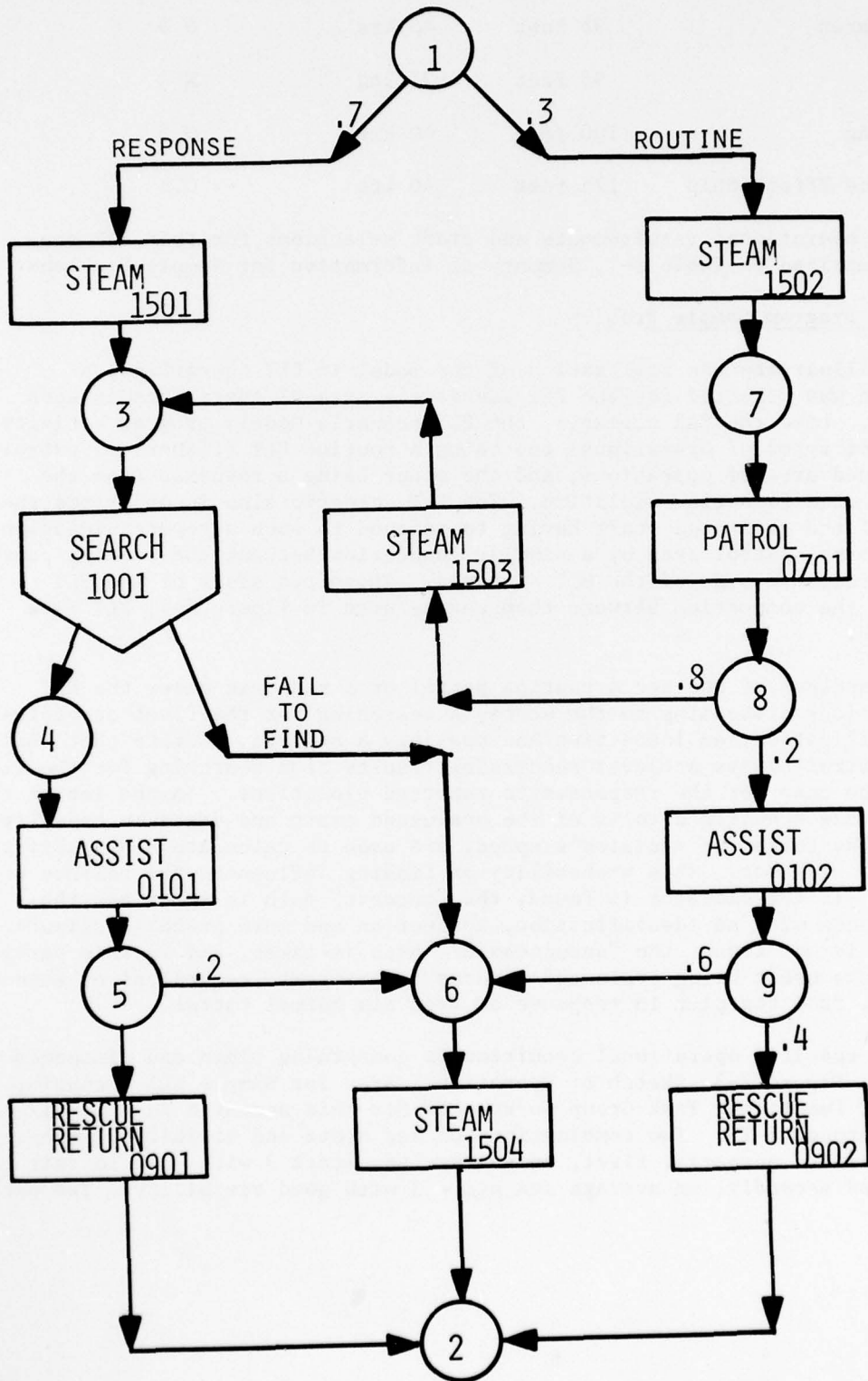


FIGURE 2-2

Four craft were selected for examination in this SAR scenario. They are as follows:

TYPE	SIZE	MAX SPEED	FUEL FRACTION
Catamaran	95 feet	40 kts	0.5
WPB	95 feet	21 kts	N/A
Planing	100 feet	40 kts	0.5
Surface Effect Ship	125 feet	40 kts	0.5

The operational requirements and craft selections for this SAR scenario are summarized in Table 1-1, Summary of Information for Sample Problems.

## 2.2 ELT Program Sample Problem

To illustrate the utilization of the model in ELT operations, a coastal region was selected for the ELT scenario's area of operations as seen in Figure 2-3. Like the SAR scenario, the ELT scenario models program activity as two distinct types of operations, one being a routine ELT (fisheries) patrol within a defined area of operations, and the other being a response from the pier to a reported fisheries violation. The ELT scenario also incorporates the possibility of the evaluated craft having to respond to such a report violation outside its normal patrol area by a similar connection between the routine patrol side and the response side of the ELT scenario. These two sides of the ELT scenario, and the connection between them can be seen in Figure 2-4, ELT Flow Chart Scenario.

Regardless of whether a routine patrol or a response case, the ELT scenario envisions a steaming to the scene, a searching for the fleet or violator, an identification, an inspection and possibly a seizure. Notice that while the routine patrol always achieves successful results from searching for the fleet, this is not the case for the responses to reported violations. In the latter type of operation, the specific details of the evaluated craft and distance travelled, coupled with the target or violator's speed, are used to calculate a probability of finding the violator. This probability of finding influences the balance of the scenario. If the violator is found, the "success" path is taken and the scenario proceeds with an identification, inspection and more probable seizure. If the target is not found, the "unsuccessful" path is taken, and in this particular problem, the craft being evaluated returns to homeport, regardless of whence he came, i.e., from the pier in response or from his normal patrol.

The specific operational requirements concerning times and distances can be seen in Figure 2-3, Sketch of Operational Area for Sample ELT Scenario, and in the ELT Functional Task Group Worksheets for this scenario in Appendix A, Figures B-1 through B-13. Two combinations of sea state and visibility were chosen for this ELT scenario, first, an average sea state 3 with good to fair visibility, and secondly, an average sea state 3 with good visibility. The path

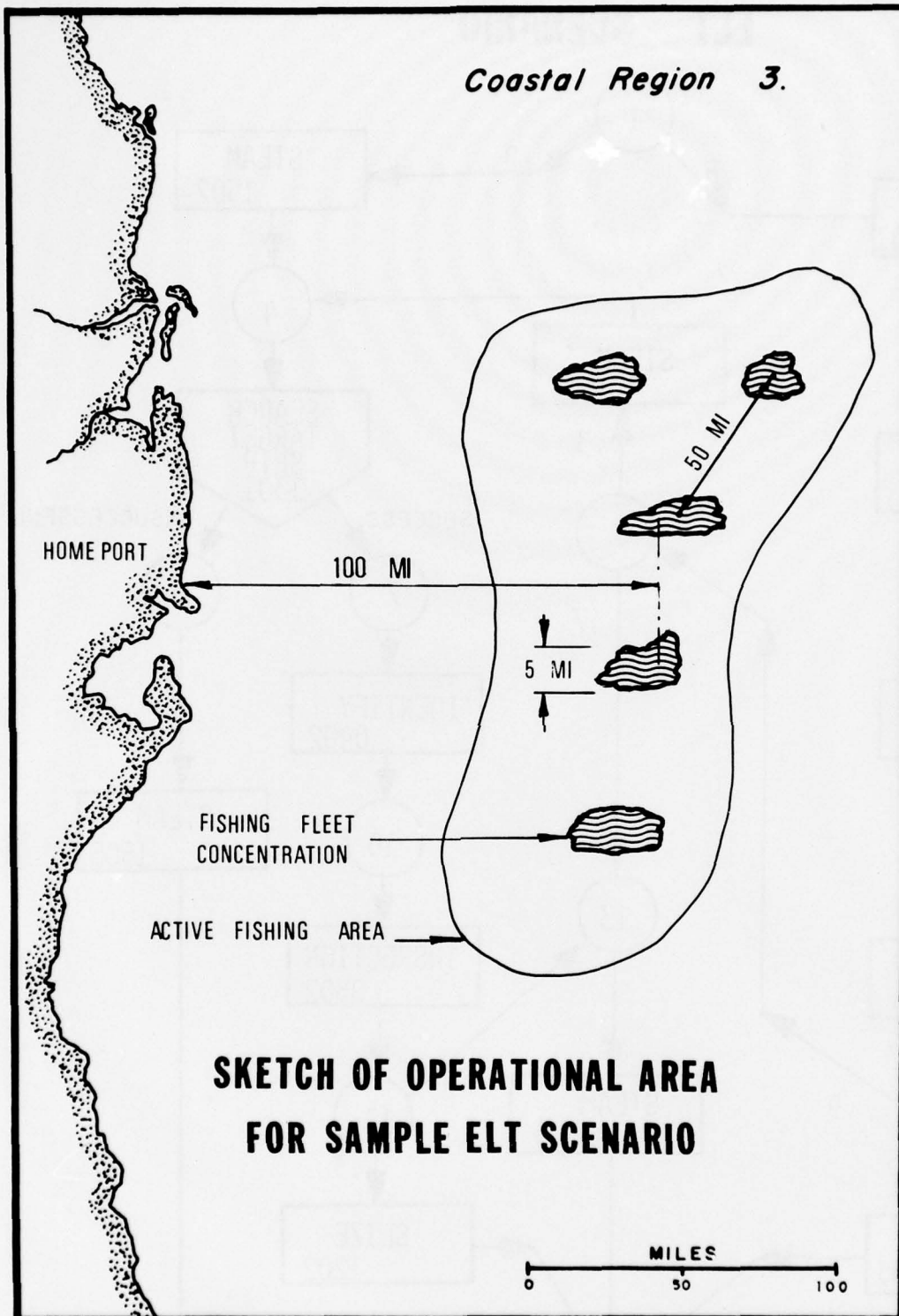


FIGURE 2-3

# ELT SCENARIO

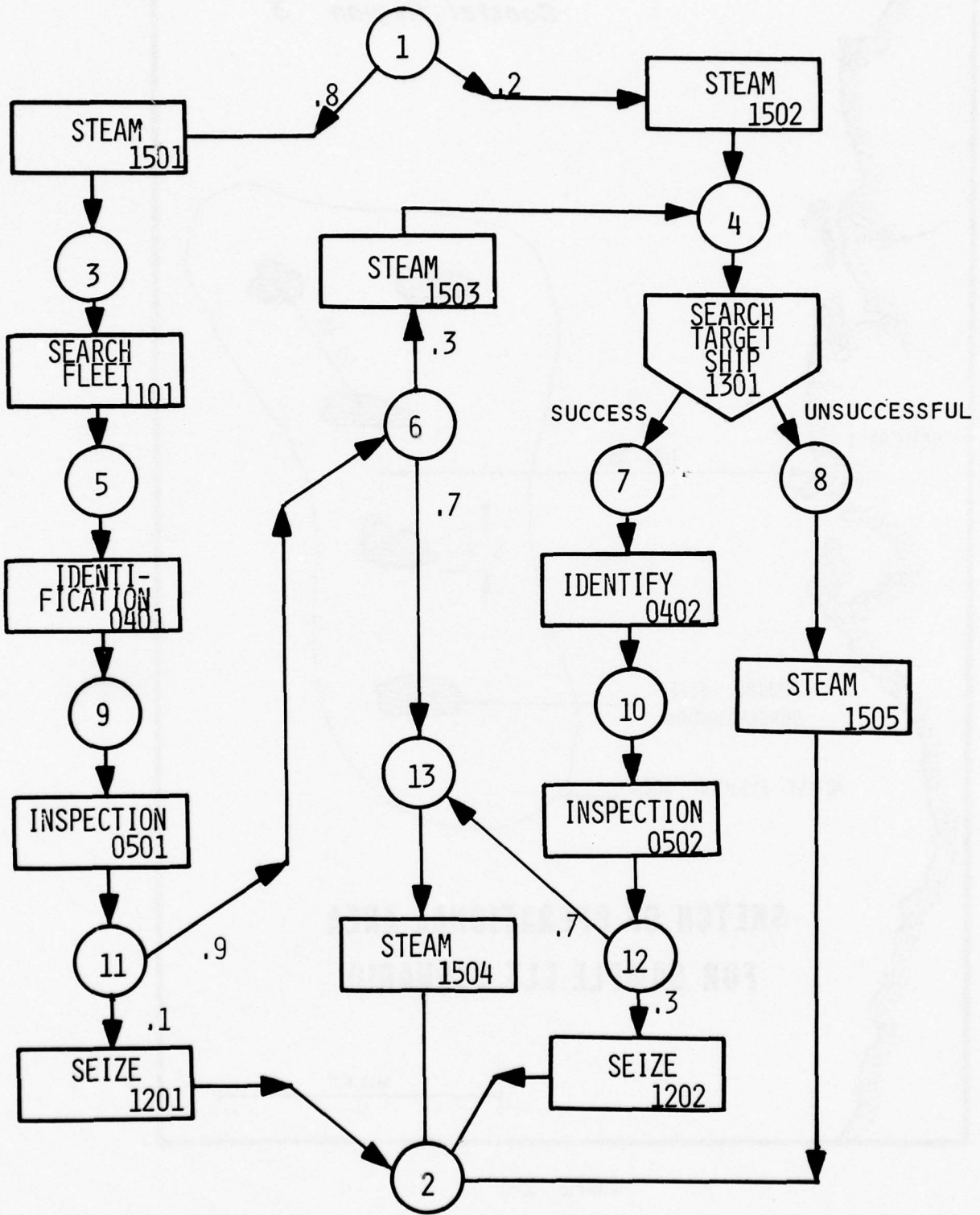


FIGURE 2-4

probabilities chosen by the authors, as seen in Figure 2-4, are 0.8 for the routine ELT patrol and 0.2 for the response activities. The maximum sortie duration was set to be 48 hours in this ELT scenario.

Towing Distribution Number 4 (larger tows) was used in this more off-shore scenario. As in the SAR scenario, Depth Distribution has no effect because this feature has not been fully developed.

Six craft were selected for examination in this ELT scenario. They are as follows:

TYPE	SIZE	MAX SPEED	FUEL FRACTION
Planing	100 feet	40 kts	0.5
Submerged Foil Hydrofoil	100 feet	40 kts	0.5
ACV (Low P/L)	200 tons	60 kts	0.5
WMEC	210 feet	17 kts	N/A
WMEC	270 feet	19.5 kts	N/A
SWATH	2000 tons	20 kts	0.5

These operational requirements and craft selections for this ELT scenario are summarized in Table 1-1, Summary of Information for Sample Problems.

### 2.3 PSS/MEP Programs Sample Problem

To illustrate the utilization of the CREE Model in Port Safety and Security and Marine Environmental Protection activities, a port region was selected for a combination PSS/MEP scenario. The general area of operations for this sample problem is shown in Figure 2-5, Sketch of Operational Area for PSS/MEP Scenario.

The modeling of the PSS/MEP activities is represented by the Flow Chart Scenario in Figure 2-6 and follows the same general logic of the previous two examples of SAR and ELT. In this particular case, however, three different types of activity are considered. These activities are, first, a regularly scheduled harbor patrol on the left side of the flow chart, and secondly, a response portion in the center of the flow chart, and finally a "working" or transporting activity on the right side of the flow chart.

The regularly scheduled harbor patrol consists of steaming around the harbor at various speeds and observing the ships, piers, and possible oil discharges from vessels, or marine safety hazards in the port area. These miscellaneous activities are performed in the Monitor Activities Group 0601 (Figure C-2). The routine patrol portion of the scenario is envisioned to account for 60 percent of the total scenario as indicated by the 0.6 probability of occurrence at the beginning of these routine operations in Figure 2-6.

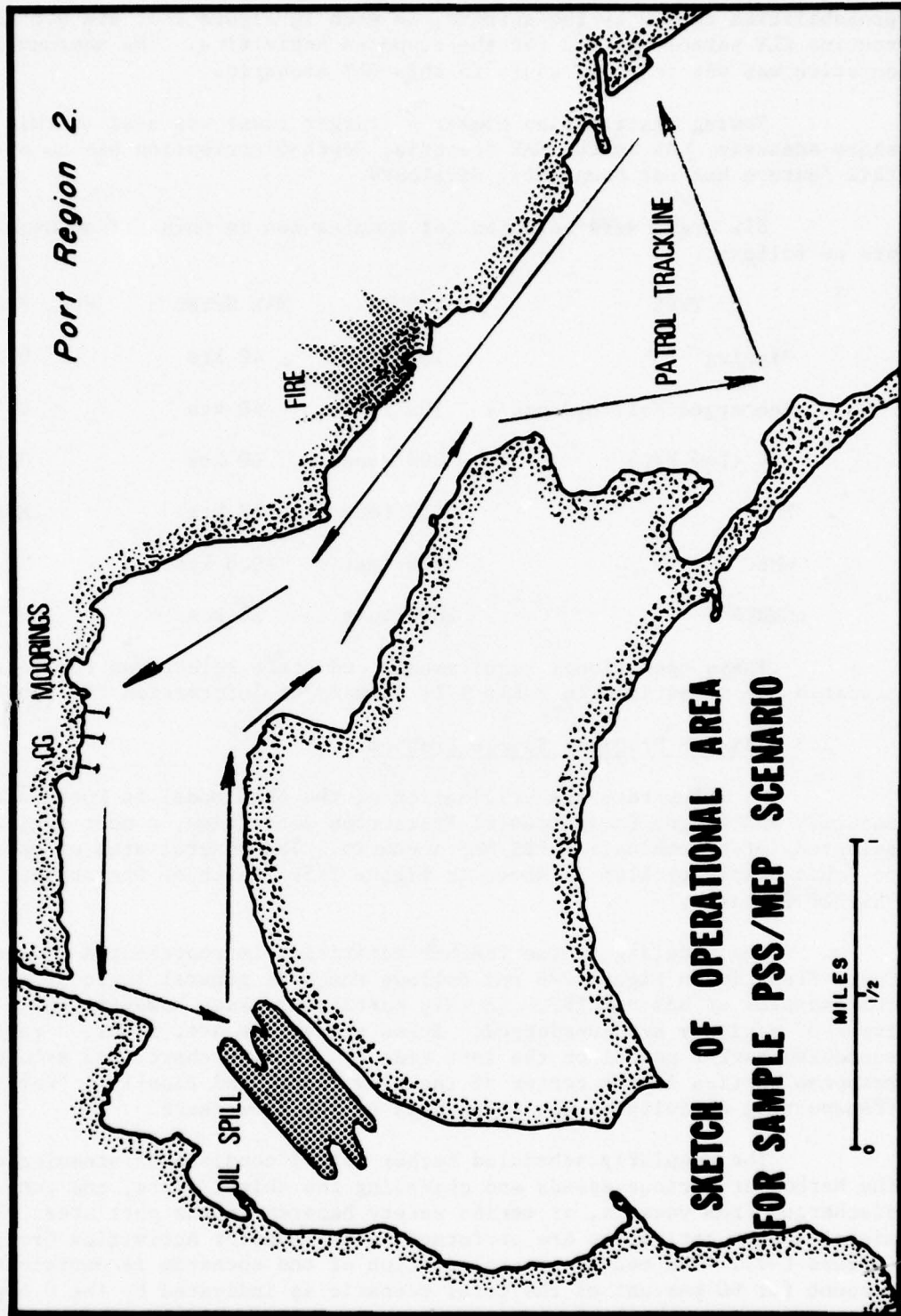


FIGURE 2-5

# PSS-MEP SCENARIO

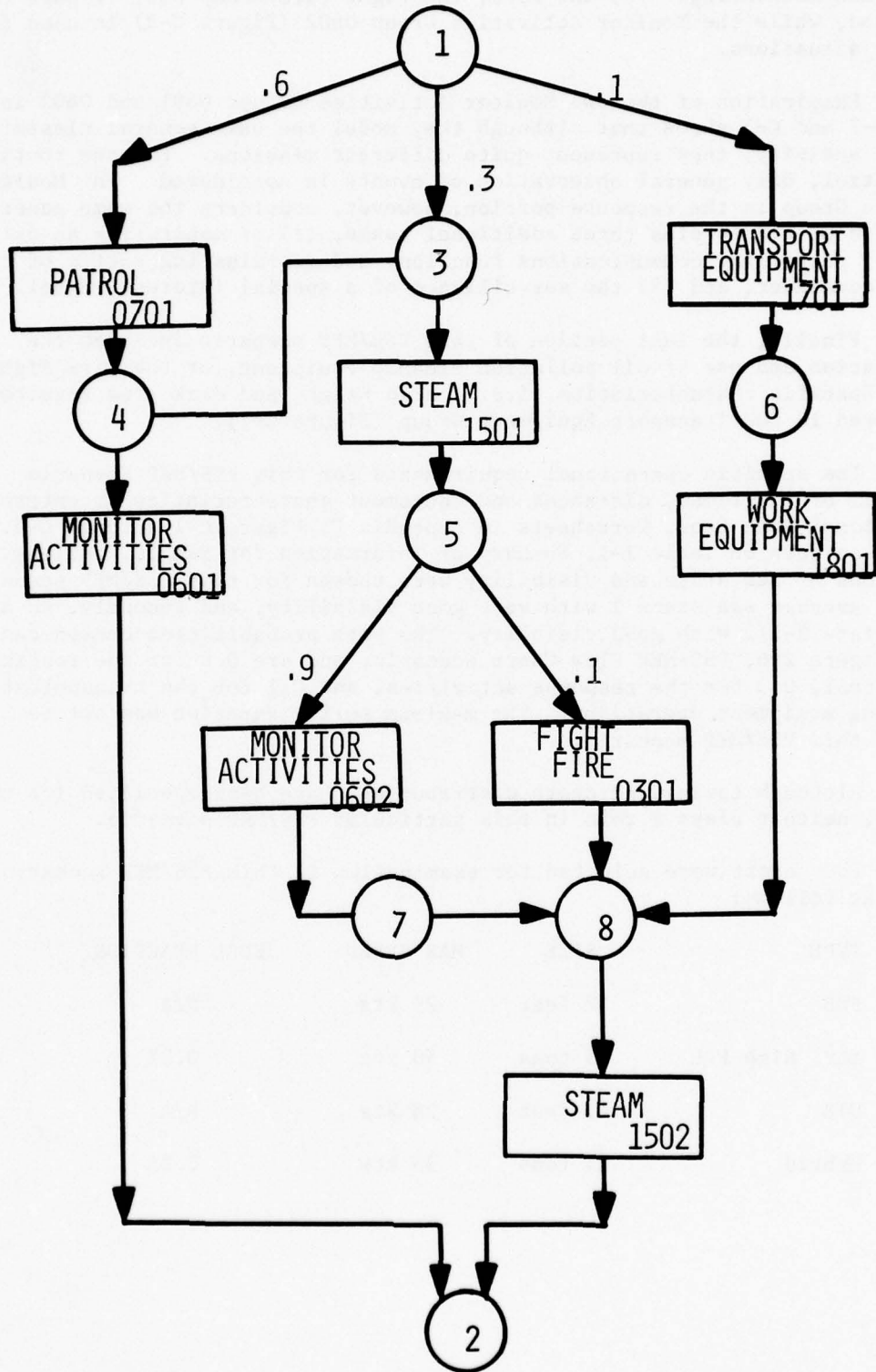


FIGURE 2-6

The response portion of the scenario consists of a high-speed steaming to the scene where either a fire or some critical event requires Coast Guard presence and monitoring. For the fire, the Fight Fire Group 0301 (Figure C-1) is utilized, while the Monitor Activities Group 0602 (Figure C-3) is used for the other situations.

Examination of the two Monitor Activities Groups 0601 and 0602 in Figures C-2 and C-3 shows that although they model the same general classification of activity, they represent quite different missions. For the routine harbor patrol, only general observation of events is considered. The Monitor Activities Group in the response portion, however, considers the same general observation of events plus three additional tasks, (1) of monitoring an oil spill, (2) performing communications functions and coordinating duties of the on-scene commander, and (3) the surveillance of a special interest vessel.

Finally, the last section of this PSS/MEP scenario includes the transportation and use of oil pollution cleanup equipment, or the Fire Fighting Module. Specific characteristics, i.e., cargo weight and deck area requirement, were entered in the Transport Equipment Group (Figure C-7).

The specific operational requirements for this PSS/MEP scenario include all of the times, distances and equipment characteristics as entered on the Functional Task Group Worksheets in Appendix C, Figure C-1 through C-8. In addition, as seen on Table 1-1, Summary of Information for Sample Problems, two combinations of sea state and visibility were chosen for this PSS/MEP scenario, first, an average sea state 1 with very good visibility, and secondly, an average sea state 2-1/2 with good visibility. The path probabilities chosen can be seen in Figure 2-6, PSS/MEP Flow Chart Scenario, and are 0.6 for the routine harbor patrol, 0.3 for the response activities, and 0.1 for the transportation and working equipment operations. The maximum sortie duration was set to be 6.0 hours for this PSS/MEP scenario.

Although towing and depth distributions have been specified for completeness, neither plays a role in this particular PSS/MEP scenario.

Four craft were selected for examination in this PSS/MEP scenario. They are as follows:

TYPE	SIZE	MAX SPEED	FUEL FRACTION
PWB	32 feet	25 kts	N/A
ACV, High P/L	15 tons	50 kts	0.25
UTB	41 feet	26 kts	N/A
Hybrid	25 tons	35 kts	0.25

### 3.0 CREE MODEL OUTPUTS

Since the CREE Model generates a considerable amount of output, it is convenient to consider it in four categories. The first category consists of all the information from the Craft/Task Evaluations element of the model (Figure 1-1, Overview of the CREE Model) which includes the list of craft characteristics, the tabulation of the parameter values for each task, and the tabulation of the probability of success values for each task. The remaining three categories of output consist of the information from the Scenario Calculations element. This includes (1) the information pertaining to the individual sorties, (2) the scenario overall results, and (3) the scenario evaluation.

#### 3.1 Craft/Task Evaluations Output

This output contains the listing of the detailed craft characteristics for the specific craft of a user-specified type, size, speed and fuel fraction, as well as the parameter and task probability of success values for this selected craft and the operational requirements.

The values of the parameters and task probabilities of success are actually independent of any scenario, although certain operational requirements, such as sea state distribution, normally connected with a scenario, must be specified to calculate these values. These necessary operational requirements are listed at the top of both craft parameter and task probability of success output pages and include the sea state, visibility, tow and depth distributions.

For our particular example problems, the Craft/Task Evaluation output appears in the appendices as follows:

EXAMPLE PROBLEM	OUTPUT DESCRIPTION	APPENDIX TABLE NUMBER
SAR	Craft Characteristics Craft Parameters Task Probability of Success	A-11 through A-14 A-15 through A-22 A-23 through A-30
ELT	Craft Characteristics Craft Parameters Task Probability of Success	B-14 through B-19 B-20 through B-31 B-32 through B-43
PSS/MEP	Craft Characteristics Craft Parameters Task Probability of Success	C-09 through C-12 C-13 through C-20 C-21 through C-28

In general, the output from the Craft/Task Evaluations element of the CREE Model should only be viewed as intermediate and informative in nature. It, in itself, will not readily assist one in making decisions or in viewing the

whole scope of any operation, but is better utilized to understand possible variations in, or divergences from, anticipated results in subsequent output. For example, when one craft performs better than some other craft, review of this intermediate information will show why this occurred.

### 3.2 Sorties and Sortie Summary

Every sortie completed by an evaluated craft has an individual output page which describes the detailed craft performance of every task in the sortie, and the overall craft performance for the entire sortie. The Sortie Summary output page collects, in a single tabulation, this overall performance for every completed sortie of the scenario.

Representative Sortie Output pages and all the Sortie Summary pages for the example problems of this report are in the appendices as follows:

EXAMPLE PROBLEM	OUTPUT DESCRIPTION	APPENDIX TABLE NUMBERS
SAR	Sortie Output	A-31 to A-45 Odd numbers
	Sortie Summary Output	A-32 to A-46 Even numbers
ELT	Sortie Output	B-44 to B-66 Odd numbers
	Sortie Summary Output	B-45 to B-67 Even numbers
PSS/MEP	Sortie Output	C-29 to C-43 Odd numbers
	Sortie Summary Output	C-30 to C-44 Even numbers

As can be seen on any Sortie Output page, and each task in the sortie is listed under the group in which it occurs and also listed in sequence of accomplishment. This allows a user to trace the path of the craft through the scenario. Only completed sorties appear in the output and, as the sortie is completed, a sequential number is assigned to the sortie. Identical sorties for two different craft in the same scenario do not necessarily have identical sequential numbers. This is dependent upon the completion of previous sorties.

The Sortie Output page lists the time to complete and the fuel consumed in completing each task. In addition, the individual task probability of success is shown. Total sortie time, fuel, probability of success and frequency of occurrence are printed at the bottom of the page.

To facilitate the evaluation of all the sorties, the principal information on each individual sortie output page is listed on the Sortie Summary by the sequential sortie number. This information includes the total sortie time, fuel, probability of success, and frequency of occurrence. In addition, the product of these latter two items, the sortie successful occurrence, is listed for each sortie.

The Sortie Summary also contains a value for the fraction of the scenario completed which is the sum of the frequencies of completed sortie. This fraction is a useful indicator of the amount of work any craft can accomplish in the scenario. Comparisons of this number for different craft in the same scenario for the same operational requirements illustrate the more capable craft. Comparisons of this number for any given craft under different operational requirements (for example, sea state distribution) illustrates the influence of the operational requirements on the amount of work that can be accomplished. It should be noted that the fraction of the scenario completed only takes into account how much work could be performed if all tasks were performed with a 100 percent probability of success. Thus, this single number is not all inclusive. A more valuable single number measure of craft performance, the probability of successfully completing the scenario, is discussed in the next section, Scenario Overall Results.

### 3.3 Scenario Overall Results

The Scenario Overall Results output page provides an excellent view of the entire scenario by the listing of the task composition of the average sortie. It also shows the values of the important measures of craft performance in the scenario.

The average sortie is a representation of the entire successfully completed scenario. It shows, in a single tabulation, the emphasis and content of the scenario, plus the success of the craft in accomplishing the mission. The average sortie is helpful in that it enables a user to create better follow-on scenarios (feedback use) and provides him with a clear indication of which craft are effective in which types of operations (evaluation use).

The best single number measure of the craft performance in the scenario is the probability of successfully completing the scenario. It takes into account not only the percent of the scenario that has been completed, but also the degree of success that the craft achieved in completing the scenario. This number, at a glance, indicates how effective the craft would be in this particular concept of operations.

In addition to the above mentioned items, the Scenario Overall Results output page lists the time to complete the average sortie and the fuel consumed in completing the average sortie. These measures further help the user in evaluating craft performance.

Tables 3-1 through 3-3 provide a summary of the Scenario Overall Results for the three sample problems of this report. The individual output pages for these sample problems are contained in the appendices as follows:

FIGURE 3-1

SUMMARY OF SCENARIO OVERALL RESULTS FOR SAR SAMPLE PROBLEM

CRAFT	AVERAGE SEA STATE	% SCENARIO COMPLETED	PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO	AVERAGE SORTIE RESULTS	
				TIME (hours)	FUEL (gallons)
CATAMARAN	2	98.1	.92	7.2	1439
	4	89.3	.67	7.8	1707
95' WPB	2	66.9	.34	8.0	528
	4	60.5	.06	9.8	678
PLANING	2	98.1	.89	7.1	2053
	.4	95.4	.55	7.7	2068
SES	2	98.1	.85	7.3	2424
	4	85.2	.39	8.7	2818

TABLE 3-2

## SUMMARY OF SCENARIO OVERALL RESULTS FOR ELT SAMPLE PROBLEM

CRAFT	AVERAGE SEA STATE	% SCENARIO COMPLETED	PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO	AVERAGE SORTIE RESULTS	
				TIME (hours)	FUEL (gallons)
PLANING	3	89.1	0.44	14.2	4526
	4	82.5	0.19	16.2	4605
SUBMERGED FOIL HYDROFOIL	3	94.9	0.80	12.2	3961
	4	89.7	0.52	14.1	4142
ACV	3	57.4	0.44	9.8	9360
	4	CRAFT	PERFORMS	NO	SORTIES
210' WMEC	3	70.4	0.07	42.5	4199
	4	0.1	0.00	37.9	3767
270' WMEC	3	78.5	0.17	38.2	6072
	4	20.0	0.02	43.2	8049
SWATH	3	100.0	0.84	26.2	8726
	4	100.0	0.84	26.7	8995

TABLE 3-3

## SUMMARY OF SCENARIO OVERALL RESULTS FOR PSS/MEP SAMPLE PROBLEM

CRAFT	AVERAGE SEA STATE	% SCENARIO COMPLETED	PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO	AVERAGE SORTIE RESULTS	
				TIME (hours)	FUEL (gallons)
32' PWB	1	98.6	.89	3.7	23
	2 1/2	86.5	.54	3.5	23
ACV	1	100	.97	3.6	140
	2 1/2	86.5	.44	3.4	149
41' UTB	1	98.6	.99	3.8	40
	2 1/2	86.5	.67	3.6	40
HYBRID	1	100	1.00	3.7	18
	2 1/2	100	.80	3.7	20

EXAMPLE PROBLEM	OUTPUT DESCRIPTION	APPENDIX TABLE NUMBERS
SAR	Scenario Overall Results	A-47 through A-54
ELT	Scenario Overall Results	B-68 through B-79
PSS/MEP	Scenario Overall Results	C-45 through C-52

### 3.4 Scenario Evaluation

The Scenario Evaluation output page presents the number of "important" tasks completed in a given number of days by the evaluated craft. The specification of which tasks are "important," and therefore printed out, is performed by the user. The important tasks vary from program to program, for example, in the sample ELT scenario of this report, the inspection, seizure, and identification of craft and fleet tasks were considered to be important, while in the sample SAR scenario, the assistance, towing, and patrol tasks were deemed important.

The Scenario Evaluation output pages for the sample scenarios of this report can be found in the appendices as follows:

SAMPLE PROBLEM	OUTPUT DESCRIPTION	APPENDIX TABLE NUMBERS
SAR	Scenario Evaluation	A-55 through A-62
ELT	Scenario Evaluation	B-80 through B-91
PSS/MEP	Scenario Evaluation	C-53 through C-60

### 3.5 Summary of CREE Model Evaluation Steps

Table 3-4 presents a summary of the various levels of evaluation, their input, criteria and location in model output for the CREE Model.

TABLE 3-4

SUMMARY OF CREE MODEL EVALUATION STEPS

LEVEL OF EVALUATION	INPUT TO EVALUATION	EVALUATION CRITERIA	LOCATION IN MODEL OUTPUT
CRAFT	Craft Type Craft Size Craft Speed Fuel Fraction	Craft Characteristics	Craft Characteristics Output Page
	TASK	Craft Characteristics and Operational Requirements and Tasks	Parameters
SORTIE		Above	Task Probabilities of Success
	Task Probability of Success Task Time Task Fuel		Sortie Output Page
SCENARIO	and Scenario	Sortie Probability of Success Sortie Frequency of Occurrence Sortie Time & Fuel	Sortie Output Page (Table 4-2) Sortie Summary Page
		% Scenario Completed Probability of Successfully Completing Scenario Average Sortie Composition and Average Time & Fuel	Scenario Overall Results Page
PROGRAM	Above and User Chosen Tasks and Time Frame	Important Tasks Completed in <u>X</u> Days of Operation	Scenario Evaluation Page

## 4.0 DISCUSSION OF CREE MODEL

### 4.1 Reality of the Scenario

The computer model results are highly dependent upon the scenario that the user created when setting up his problem. This is best illustrated in the sample ELT scenario with the 210' WMEC. (See Table 3-2.) In this particular case, the scenario was not matched to the capabilities of the 210' WMEC in that the concept of operations was structured along the lines of a "daily operation," whereas the 210' is better suited for longer duration patrols. It is unrealistic to attempt to evaluate large, slow conventional vessels in a scenario basically designed for small high speed craft and this point is evident in these results.

Not only are the results greatly influenced by the broad concept of operations, they are also significantly influenced by the choice of the specific tasks and their associated operational requirements within the scenario. The best example in these sample problems of this point is the inability of the 32' PWB to perform the Transport/Work Equipment leg of the PSS/MEP Scenario. On the Transport Equipment Functional Task Group Worksheet (Figure C-7), the equipment weight and area requirements were specified in this sample problem to be 1.4 tons and 60 square feet, which exceed the capability of the 32' PWB. This results in the 32' PWB being unable to successfully complete the entire leg of the scenario with this Transport Equipment Tasks. This leg represents 10 percent of the scenario, which is a substantial amount, all unable to be accomplished because of the deck area and weight entries made by the user in setting up the scenario.

In summary, the scenario must be created and constructed thoughtfully and carefully by the user of the CREE Model. In addition, just as different techniques used in the field are modified and refined to improve any operation, so must the scenarios be modified and refined in the CREE Model. With exercise and refinement, the scenarios can be made extremely realistic.

### 4.2 Usefulness of the CREE Model

The CREE Model can be used to evaluate either craft performance in a fixed scenario, or the suitability of a concept of operations with a given craft. The choice is dependent upon the desires of the user. The procedure followed for either case only depends upon which variables remain fixed in a series of model runs. The sample problems in this report were structured to evaluate craft performance; however, since a wide variety of craft were considered, the results do illustrate the suitability and unsuitability of some of the concepts of operations. Specifically, the ELT Scenario shows a well chosen concept of operations for hydrofoil craft but a rather poor one for larger conventional vessels.

The results herein show that the CREE Model behaves in a predictable and understandable manner, and, hence, should prove invaluable for various craft and mission related studies and investigations. On a broader scale, however, the model has the advantage of providing a unified structure and organization for the diverse activities in the many Coast Guard missions. Using and exercising the

model will assist Program Managers in seeing how the realization of the objectives and goals of their particular programs is affected by craft capability and variations in operational requirements.

#### 4.3 Areas of Improvement

The CREE Model can be improved in two general ways, first, by refining the stored data such as the craft characteristics in the computer program, and secondly, by improving the analytical calculation procedures, for example, restructuring the algorithms used to calculate parameter values. To say that these improvements can be made, however, is not the same as saying that they should be made. This determination must be made following realistic use and subsequent deliberate consideration of the scope, complexity, and benefit of each modification.

The simplest changes to incorporate into the CREE Model are those associated with the stored data and design relationships for the various craft. The information now stored in the model is sufficiently accurate to enable realistic assessment of craft performance, yet future use of the model may require more precise delineation between the craft types. If this is the case, by using craft characteristic information from builders, designers, or the available literature, the stored data can be updated.

As with the stored craft information, users may wish to refine the stored data for the operational requirements, such as sea state distributions. Again, this is relatively straightforward and requires no modification of the methodology of the model.

Changes to the calculation procedures, or methodology, are somewhat more sophisticated, and oftentimes subtle in nature. It is also possible that small modification in one area of the model's procedure may invite or necessitate changes in another area in order to keep the overall craft evaluation procedure balanced or logical.

An example of changing a calculation procedure that has already been discussed is the elimination or redefining of the GO parameter, which presently quantifies the fraction of time a craft will achieve a speed above a specified minimum acceptable speed, i.e., the fraction GO's. Originally, the GO parameter was envisioned to model the fact that in certain heavy sea state conditions a vessel would be unable to make an acceptable speed and would therefore not leave the pier on such occasions. With the incorporation of the Sortie Duration time limit, however, this situation is somewhat accounted for elsewhere in the model, and the need for a GO parameter diminished. The point is, though, prior to complete elimination of, or imposition of, new criteria for the GO parameter from the model, careful consideration should be given to situation desired to be represented by the model and the model's intended use.

Another area of possible improvement in the model's methodology is to fully develop the Draft (DF) parameter. This parameter was envisioned to account for the effect of shallow water hindering the operation of deep draft vessels, but was not considered sufficiently important for the time and effort required

to incorporate into the model. Subsequent use of the model may dictate the DF parameter's full development.

Finally, and perhaps the most complex improvements to the CREE Model, are those centered upon areas untouched in this early edition. Examples of these add-ons or refinements include a costing subroutine to calculate a craft's initial and operational costs, the incorporation of craft availability and reliability, possibly some craft crewing or support concepts, as well as the capability to address multi-units, such as helicopters deploying from the various craft, or more than one craft operating in a concept of operations. Needless to say, all models have their limitations, and all models can be improved. The Cutter Resource Effectiveness Evaluation Model is no different. Depending upon the extent of its use, future refinements and improvements may be appropriate.

# SAR SCENARIO ASSIST GROUP

GROUP NUMBER 1

OCCURRENCE 1

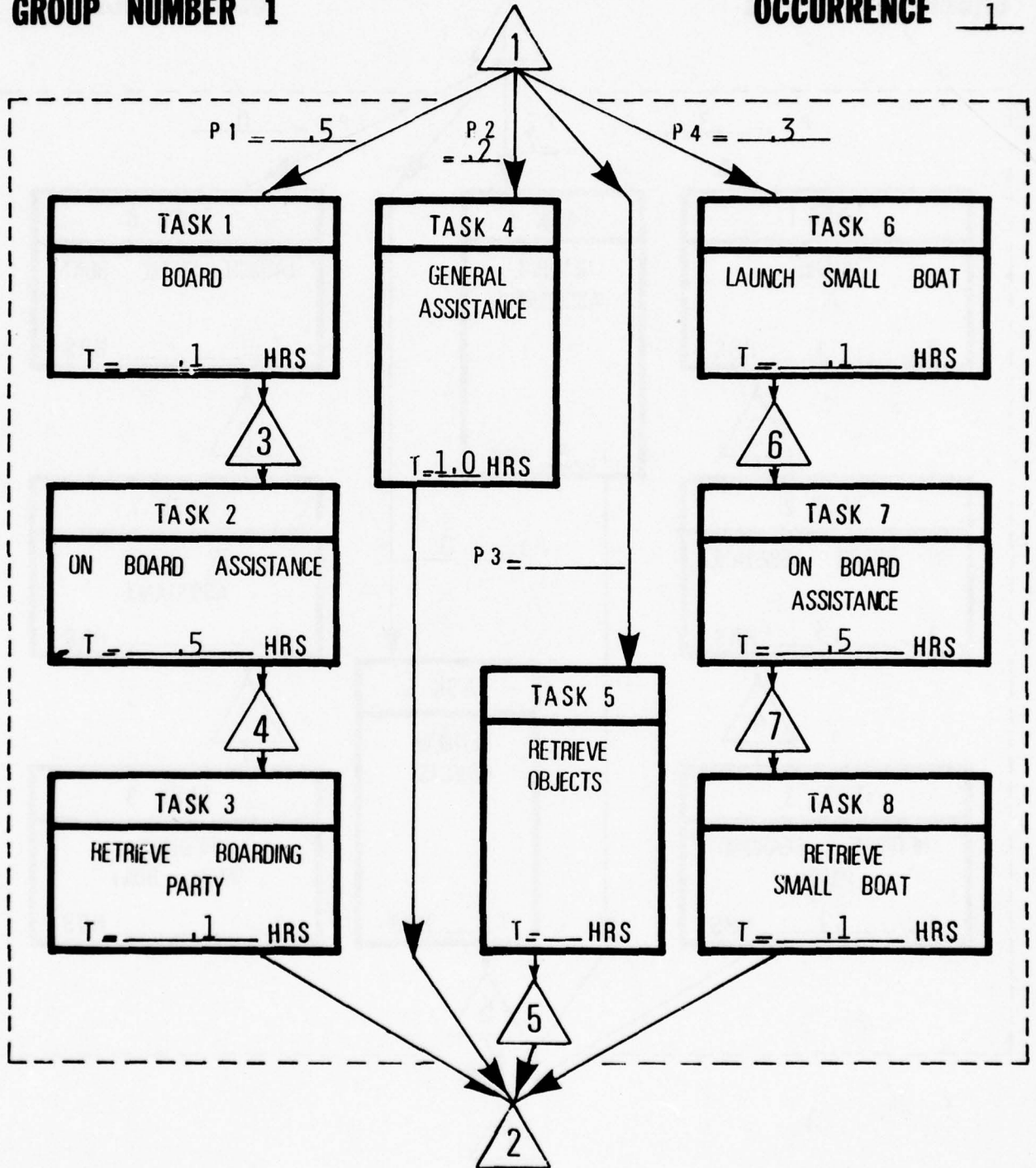


FIGURE A-1

A-1

# SAR SCENARIO ASSIST GROUP

GROUP NUMBER 1

OCCURRENCE 2

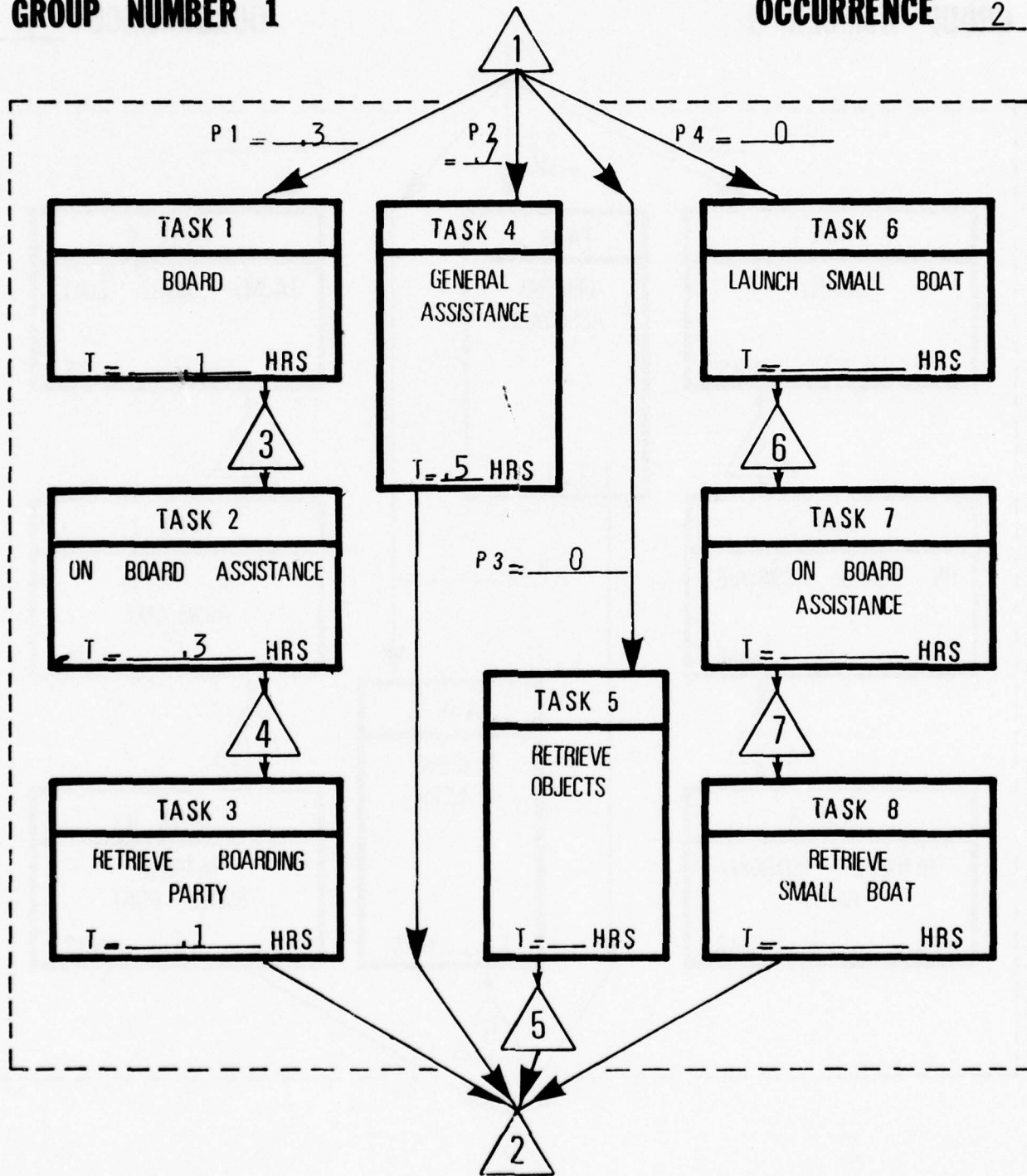


FIGURE A-2

# SAR SCENARIO PATROL GROUP

GROUP NUMBER 7

OCCURRENCE 1

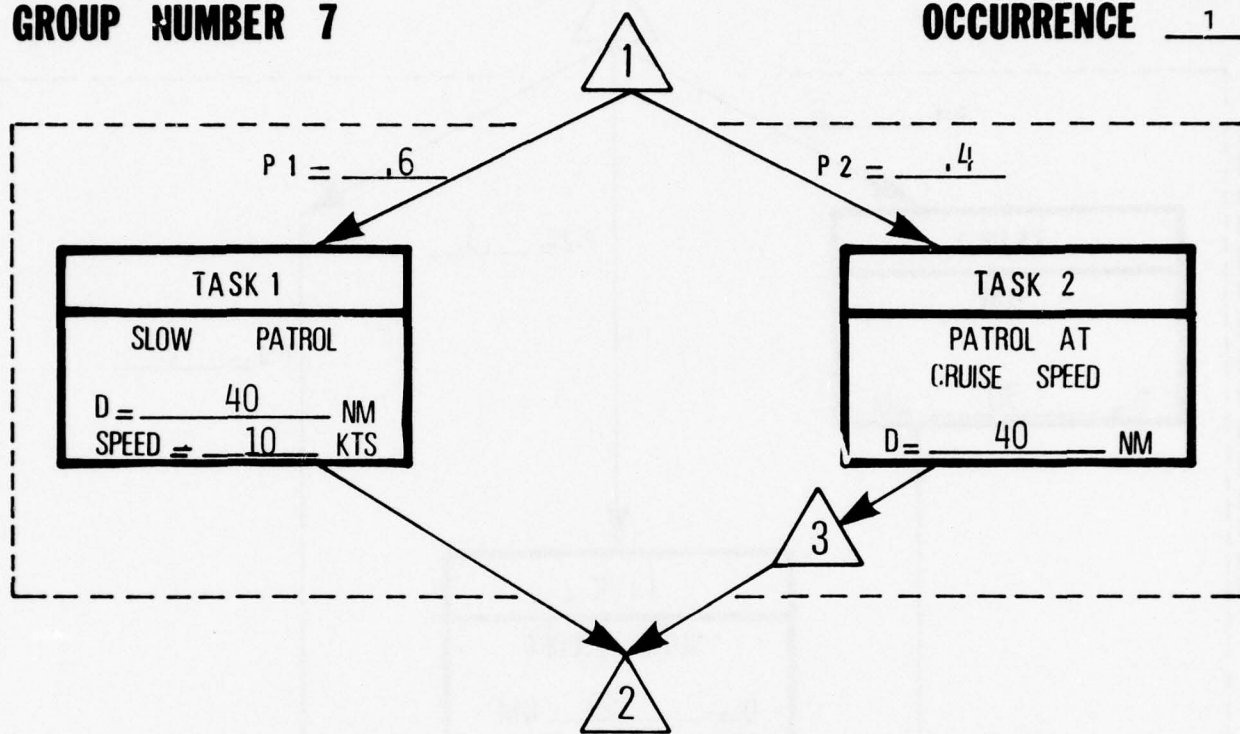


FIGURE A-3

# SAR SCENARIO RESCUE RETURN GROUP

GROUP NUMBER 9

OCCURRENCE 01

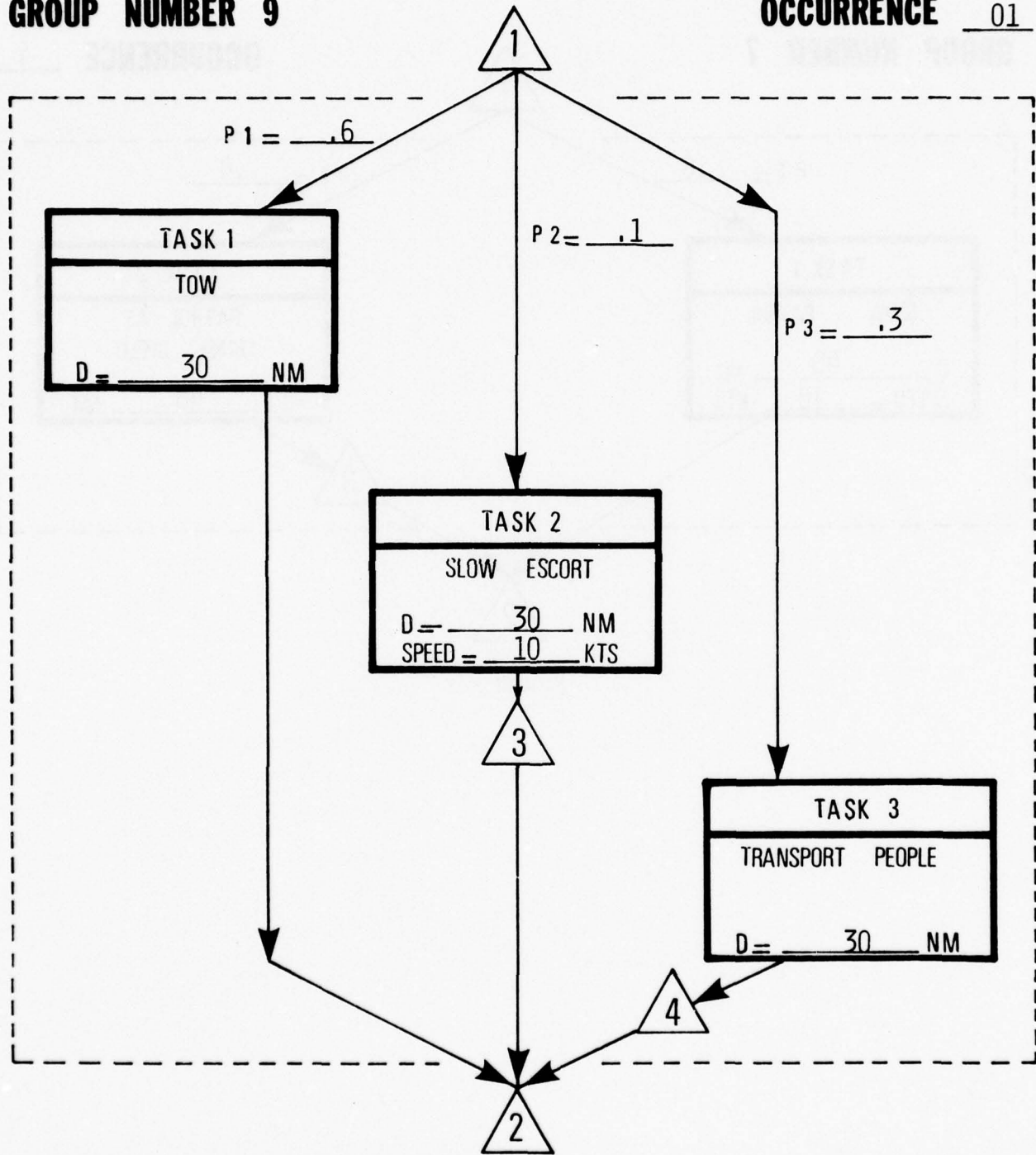


FIGURE A-4

# SAR SCENARIO RESCUE RETURN GROUP

GROUP NUMBER 9

OCCURRENCE 02

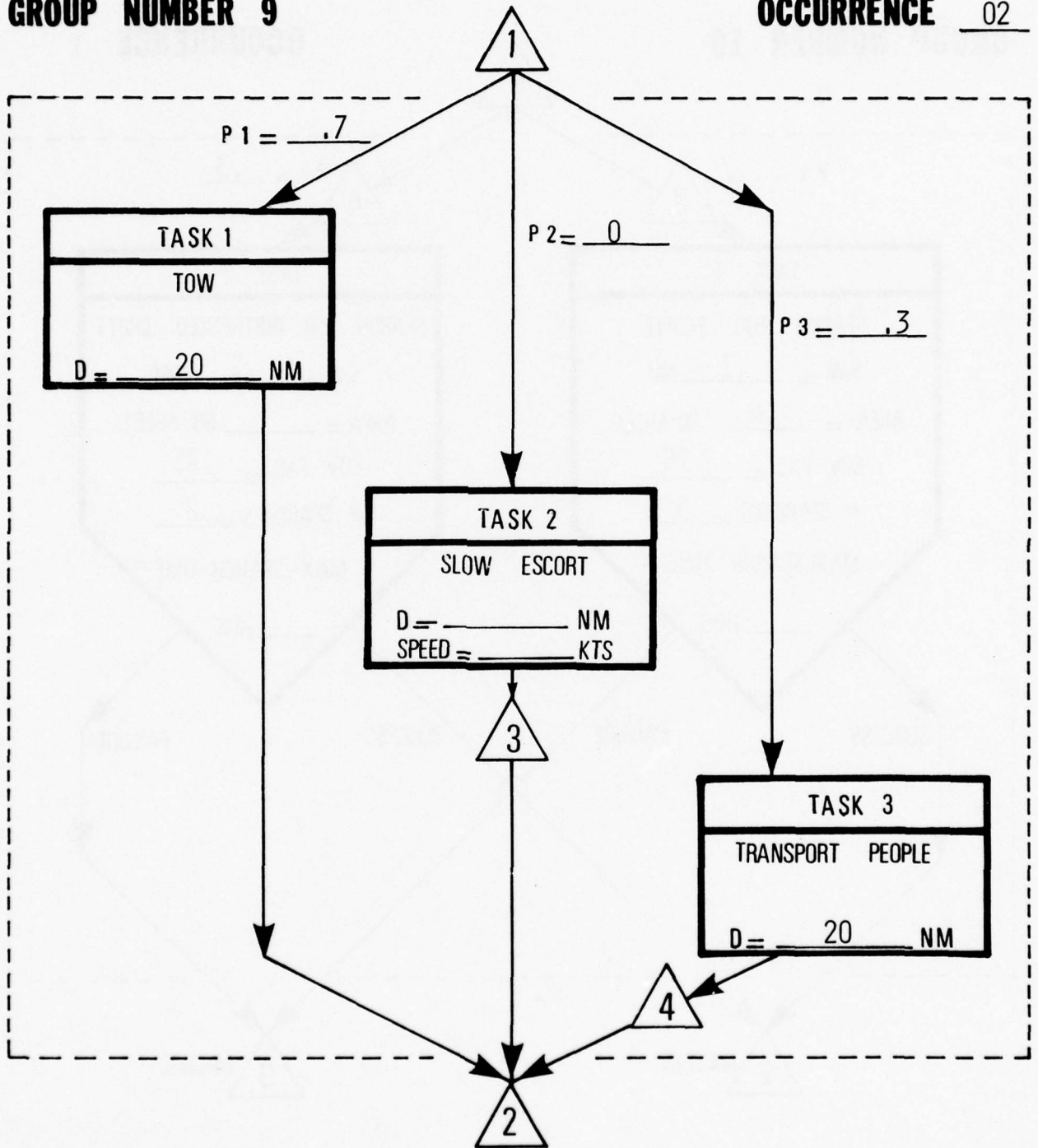


FIGURE A-5

# SAR SCENARIO SAR SEARCH GROUP

**GROUP NUMBER 10**

**OCCURRENCE 1**

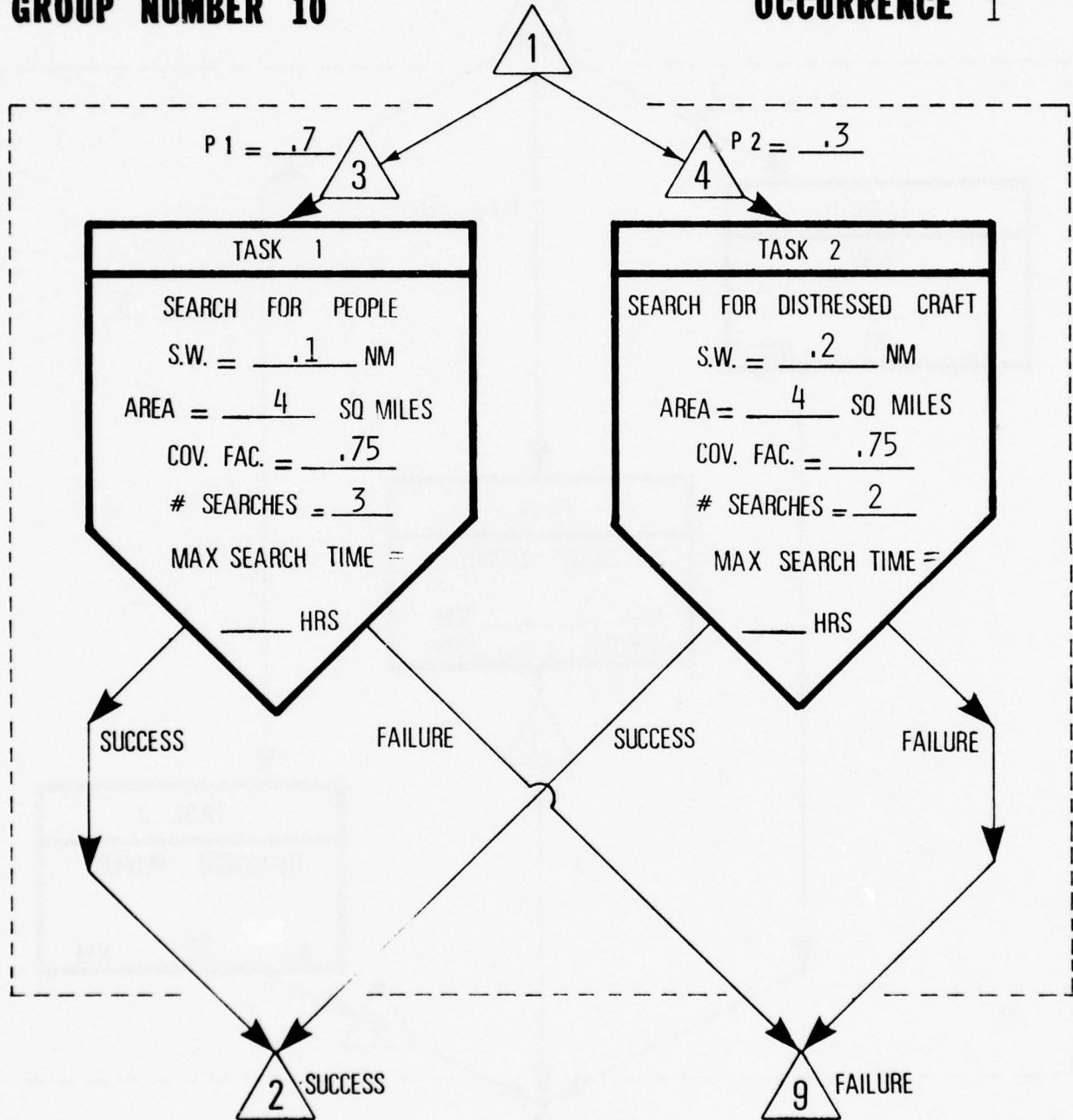


FIGURE A-6

# SAR SCENARIO STEAM GROUP

GROUP NUMBER 15

OCCURRENCE 01

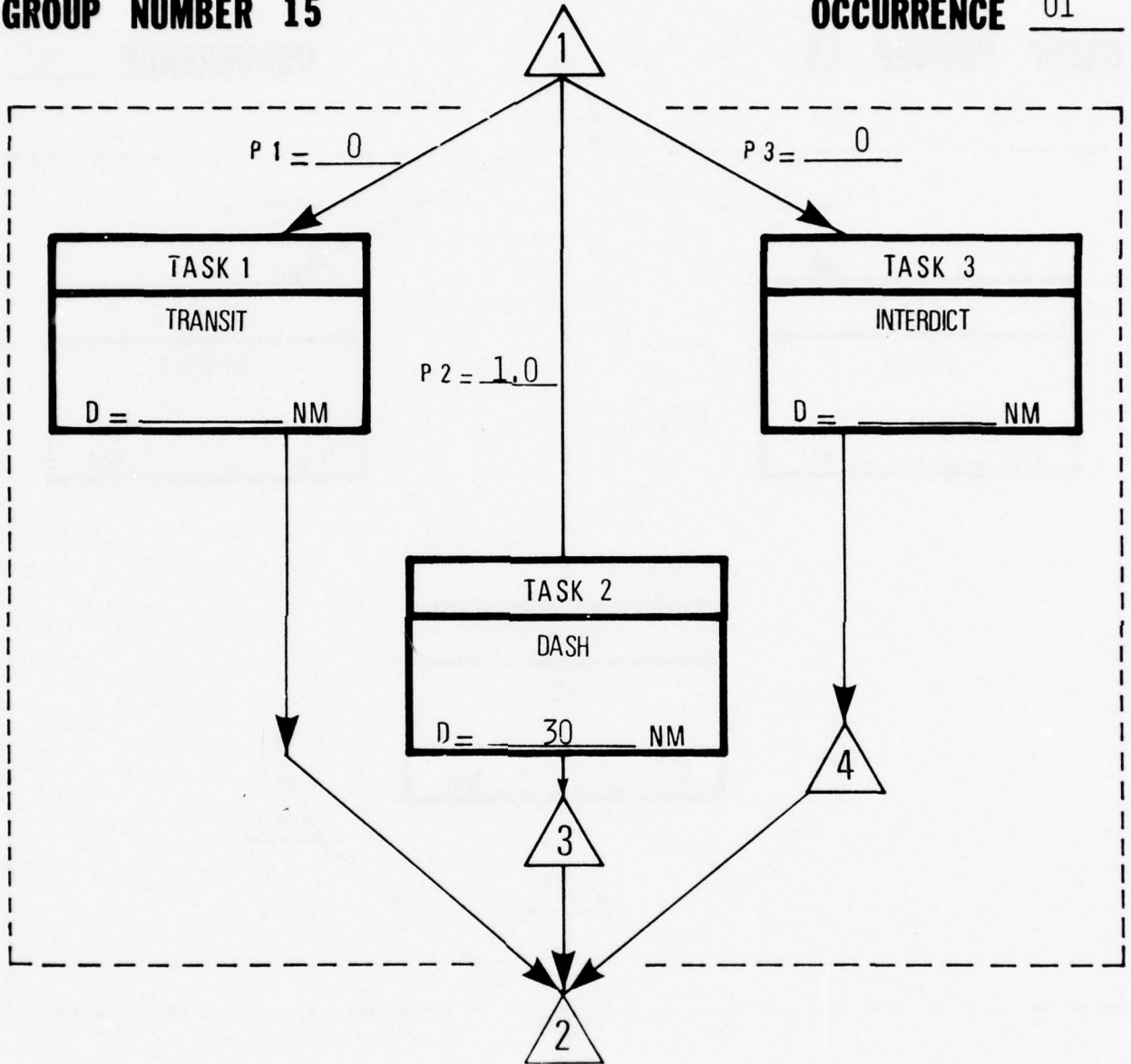


FIGURE A-7

# SAR SCENARIO STEAM GROUP

GROUP NUMBER 15

OCCURRENCE 02

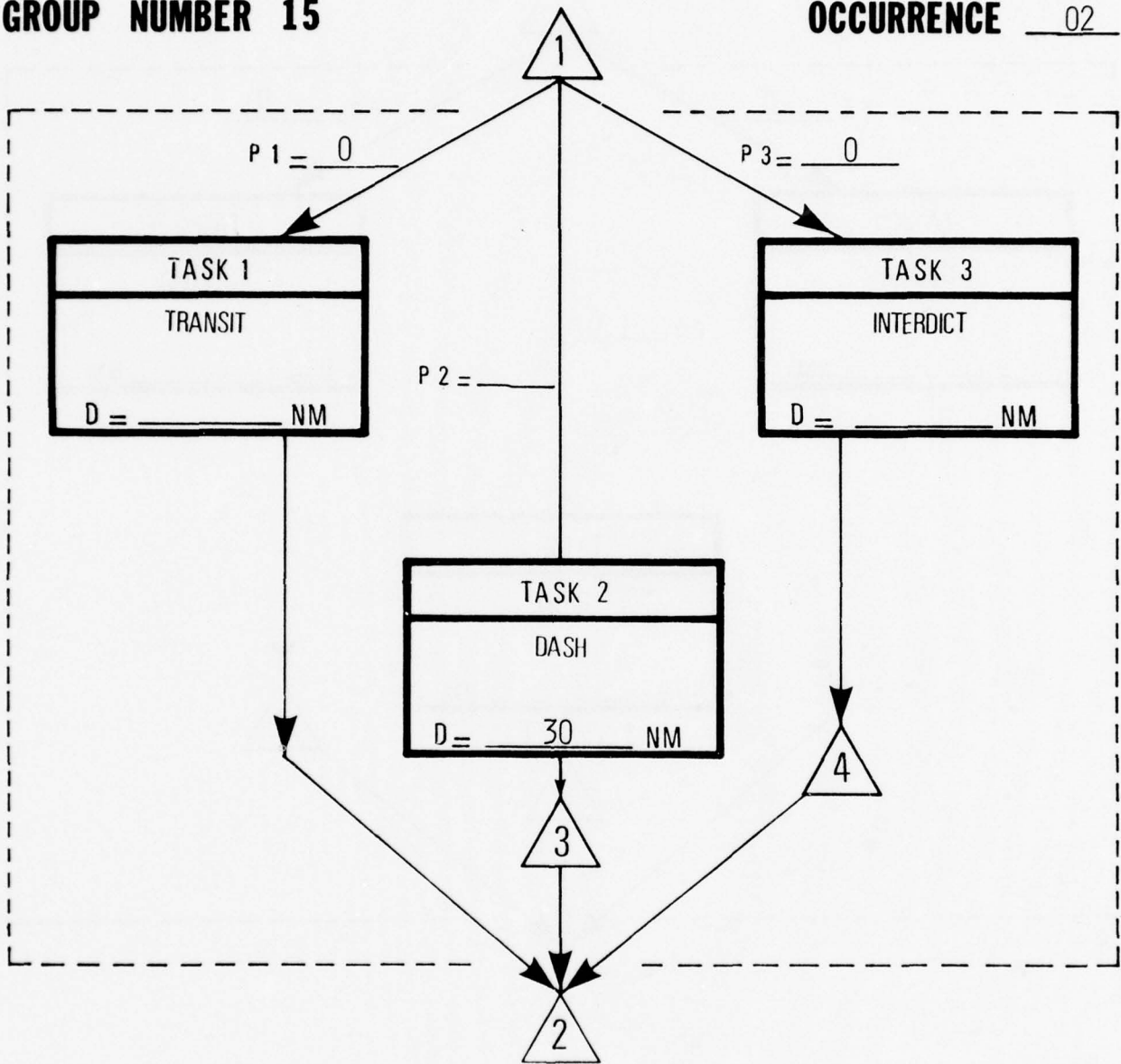


FIGURE A-8

# SAR SCENARIO STEAM GROUP

GROUP NUMBER 15

OCCURRENCE 03

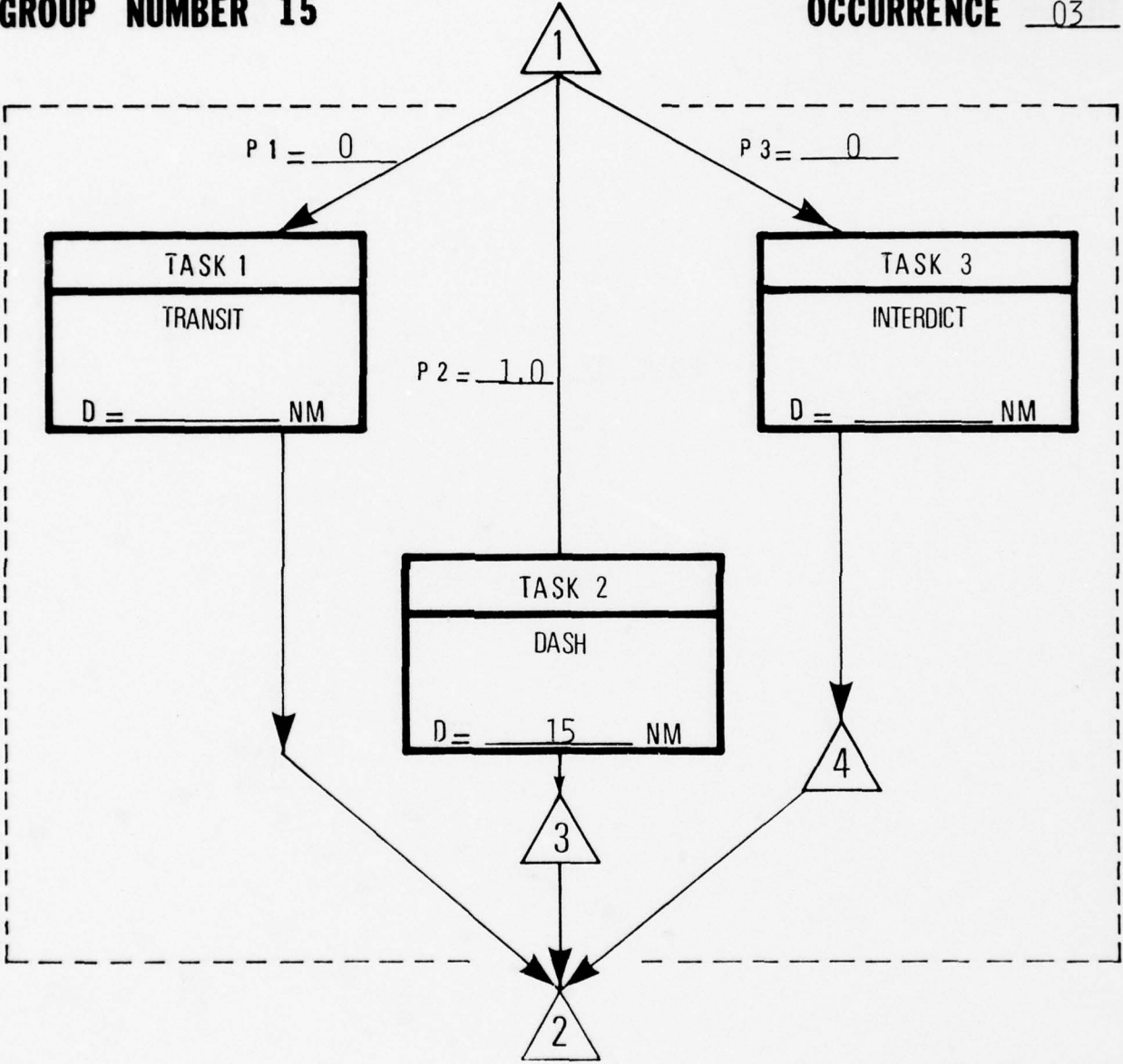


FIGURE A-9

# SAR SCENARIO STEAM GROUP

GROUP NUMBER 15

OCCURRENCE 04

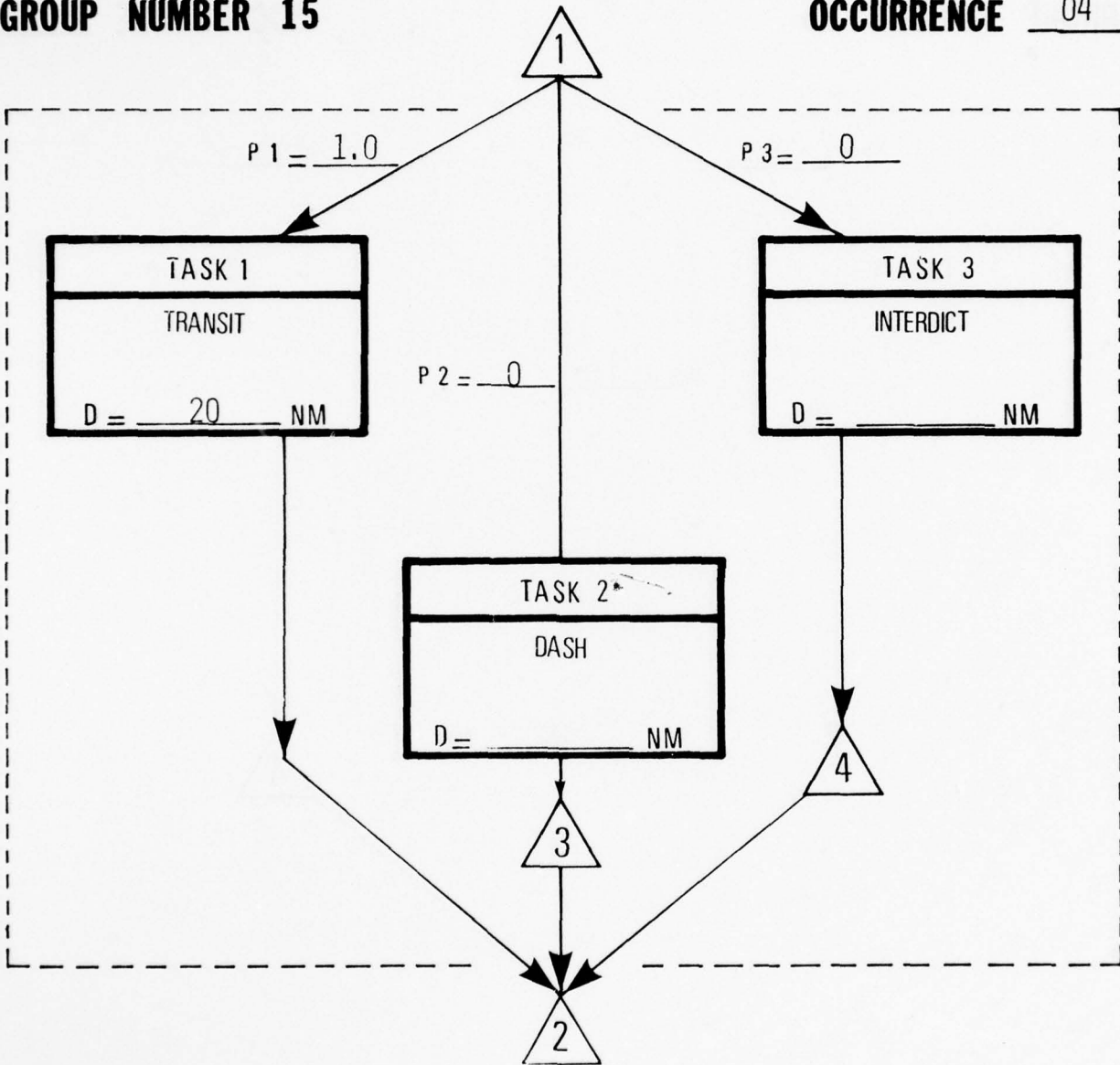


FIGURE A-10

## CRAFT CHARACTERISTICS

CRAFT TYPE	CATAMARAN
DISPLACEMENT	94 TONS
LENGTH	95 FEET
DESIGN SPEED	40 KNOTS
FUEL FRACTION	0.50

LENGTH	95.0	FEET
BEAM	38.0	FEET
DRAFT	4.8	FEET
LENGTH/BEAM RATIO	2.50	
DRAFT/LENGTH RATIO	0.05	
DISPLACEMENT	93.7	TONS
SURVIVABILITY	5	SEA STATE
TOWS VESSELS UP TO	917.	TONS
USEABLE DECK AREA	1444.	SQUARE FEET
CARGO CAPACITY	14.6	TONS
FUEL CAPACITY	14.6	TONS
USEFUL PAYLOAD	29.3	TONS
INSTALLED POWER	2467.	HORSEPOWER
POWER TO WEIGHT	101.0	HP/TON
TRANSPORT EFFICIENCY	2.55	HP/TON-KNOT
RANGE AT CRUISE SPEED	426.	NAUTICAL MILES
ENDURANCE AT CRUISE SPEED	12.2	HOURS

ENGINE TYPE	FLANK	CRUISE	REDUCED	ON	
	SPEED	SPEED	SPEED	SCENE	
	(DE)	(DE)	(DE)	(DE)	
CALM WATER SPEED	40.0	35.0	12.0	5.0	KNOTS
SFC (WEIGHT)	0.35	0.35	0.35	0.35	LBS/HP-HR
SFC (VOLUME)	0.05	0.05	0.05	0.05	GAL/HP-HR
HP UTILIZED	9467.0	7692.0	2476.2	1065.0	HP
FUEL CONSUMPTION	425.5	402.6	129.6	55.7	GAL/HR
FUEL CONSUMPTION	12.4	11.5	10.8	11.1	GAL/NAUT MI
ENDURANCE (FUEL)	9.9	12.2	37.9	88.0	HOURS
RANGE	396.0	426.5	454.2	440.0	NAUTICAL MI
TURNING RADIUS	430.1	376.5	129.0	53.0	YARDS
CRAFT MOTION	0.1	0.1	0.1	0.1	G
AVG FUEL RATE	460.9	377.1	129.6	55.7	GAL/HR
AVG SPEED	36.0	28.7	12.0	5.0	KNOTS
TOW SPEED	-	-	9.8	-	KNOTS

FIGURE A-11

C R A F T C H A R A C T E R I S T I C S

CRAFT TYPE	COAST GUARD WPB 95
DISPLACEMENT	100 TONS
LENGTH	95 FEET
DESIGN SPEED	20 KNOTS
FUEL FRACTION	0.27

LENGTH	95.0 FEET
BEAM	20.0 FEET
DRAFT	6.0 FEET
LENGTH/BEAM RATIO	4.75
DRAFT/LENGTH RATIO	0.06
DISPLACEMENT	100.0 TONS
SURVIVABILITY	6 SEA STATE
TOWS VESSELS UP TO	2000. TONS
USEABLE DECK AREA	400. SQUARE FEET
CARGO CAPACITY	4.0 TONS
FUEL CAPACITY	9.0 TONS
USEFUL PAYLOAD	5.5 TONS
INSTALLED POWER	2324. HORSEPOWER
POWER TO WEIGHT	23.2 HP/TON
TRANSPORT EFFICIENCY	1.15 HP/TON-KNOT
RANGE AT CRUISE SPEED	540. NAUTICAL MILES
ENDURANCE AT CRUISE SPEED	33.8 HOURS

ENGINE TYPE	FLANK SPEED (DE)	CRUISE SPEED (DE)	REDUCED SPEED (DE)	ON SCENE (DE)	
CALM WATER SPEED	20.0	16.0	12.0	5.0	KNOTS
SFC (WEIGHT)	*****	*****	*****	*****	LBS/HP-HR
SFC (VOLUME)	*****	*****	*****	*****	GAL/HP-HR
HP UTILIZED	2324.0	1662.0	581.0	232.0	HP
FUEL CONSUMPTION	130.0	88.7	36.0	7.5	GAL/HR
FUEL CONSUMPTION	6.5	5.6	3.0	1.5	GAL/NAUT MI
ENDURANCE (FUEL)	23.0	33.8	83.3	400.0	HOURS
RANGE	400.0	540.0	1000.0	2000.0	NAUTICAL MI
TURNING RADIUS	*****	172.0	*****	*****	YARDS
CRAFT MOTION	0.1	0.1	0.1	0.1	G
AVG FUEL RATE	130.0	88.7	36.0	7.5	GAL/HR
AVG SPEED	16.4	8.6	11.9	5.0	KNOTS
TOW SPEED	-	-	9.8	-	KNOTS

FIGURE A-12

CRAFT CHARACTERISTICS

CRAFT TYPE	PLANING CRAFT
DISPLACEMENT	96 TONS
LENGTH	100 FEET
DESIGN SPEED	40 KNOTS
FUEL FRACTION	0.50

LENGTH	100.0	FEET
BEAM	18.2	FEET
DRAFT	6.0	FEET
LENGTH/BEAM RATIO	5.50	
DRAFT/LENGTH RATIO	0.06	
DISPLACEMENT	95.5	TONS
SURVIVABILITY	5	SEA STATE
TOWS VESSELS UP TO	941.	TONS
USEABLE DECK AREA	455.	SQUARE FEET
CARGO CAPACITY	21.3	TONS
FUEL CAPACITY	21.3	TONS
USEFUL PAYLOAD	42.7	TONS
INSTALLED POWER	6182.	HORSEPOWER
POWER TO WEIGHT	64.7	HP/TON
TRANSPORT EFFICIENCY	1.62	HP/TON-KNOT
RANGE AT CRUISE SPEED	578.	NAUTICAL MILES
ENDURANCE AT CRUISE SPEED	16.5	HOURS

	FLANK SPEED	CRUISE SPEED	REDUCED SPEED	ON SCENE	
ENGINE TYPE	(GT)	(GT)	(GT)	(DE)	
CALM WATER SPEED	40.0	35.0	12.0	5.0	KNOTS
SFC (WEIGHT)	0.54	0.58	0.89	0.35	LBS/HP-HR
SFC (VOLUME)	0.08	0.09	0.13	0.05	GAL/HP-HR
HP UTILIZED	6181.8	5022.7	2053.8	440.1	HP
FUEL CONSUMPTION	495.1	432.5	272.0	23.0	GAL/HR
FUEL CONSUMPTION	12.4	12.4	22.7	4.6	GAL/NAUT MI
ENDURANCE (FUEL)	14.4	16.5	26.3	310.2	HOURS
RANGE	577.3	578.3	315.3	1550.9	NAUTICAL MI
TURNING RADIUS	322.6	282.3	96.8	40.3	YARDS
CRAFT MOTION	0.9	0.7	0.3	0.2	G
AVG FUEL RATE	473.8	417.4	272.0	23.0	GAL/HR
AVG SPEED	34.3	29.8	12.0	5.0	KNOTS
TOW SPEED	-	-	9.8	-	KNOTS

FIGURE A-13

## C R A F T C H A R A C T E R I S T I C S

CRAFT TYPE	SURFACE EFFECT SHIP
DISPLACEMENT	177 TONS
LENGTH	125 FEET
DESIGN SPEED	40 KNOTS
FUEL FRACTION	0.50

LENGTH	125.0	FEET
BEAM	41.7	FEET
DRAFT	6.3	FEET
LENGTH/BEAM RATIO	3.00	
DRAFT/LENGTH RATIO	0.05	
DISPLACEMENT	176.5	TONS
SURVIVABILITY	6	SEA STATE
TOWS VESSELS UP TO	2134.	TONS
USEABLE DECK AREA	3906.	SQUARE FEET
CARGO CAPACITY	34.3	TONS
FUEL CAPACITY	34.3	TONS
USEFUL PAYLOAD	68.7	TONS
INSTALLED POWER	2929.	HORSEPOWER
POWER TO WEIGHT	16.6	HP/TON
TRANSPORT EFFICIENCY	0.41	HP/TON-KNOT
RANGE AT CRUISE SPEED	1754.	NAUTICAL MILES
ENDURANCE AT CRUISE SPEED	50.1	HOURS

	FLANK SPEED	CRUISE SPEED	REDUCED SPEED	ON SCENE	
ENGINE TYPE	(GT)	(GT)	(GT)	(GT)	
CALM WATER SPEED	40.0	35.0	12.0	5.0	KNOTS
SFC (WEIGHT)	0.63	0.70	1.07	1.21	LBS/HP-HR
SFC (VOLUME)	0.09	0.10	0.16	0.18	GAL/HP-HR
HP UTILIZED	2928.8	2196.6	2224.0	1503.3	HP
FUEL CONSUMPTION	278.1	229.4	354.8	273.1	GAL/HR
FUEL CONSUMPTION	7.0	6.6	29.6	54.6	GAL/NAUT MI
ENDURANCE (FUEL)	41.3	50.1	32.4	42.1	HOURS
RANGE	1653.9	1754.2	388.9	210.5	NAUTICAL MI
TURNING RADIUS	860.2	752.7	258.1	107.5	YARDS
CRAFT MOTION	0.1	0.1	0.1	0.1	G
AVG FUEL RATE	302.9	258.6	354.8	273.1	GAL/HR
AVG SPEED	30.0	28.4	11.9	5.0	KNOTS
TOW SPEED	-	-	10.0	-	KNOTS

FIGURE A-14

CRAFT PARAMETERS

CRAFT TYPE CATAMARAN  
 DISPLACEMENT 94 TONS  
 LENGTH 95 FEET  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 1  
 TOW DISTRIBUTION NO. 4  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 4  
 (AVERAGE SEA STATE=2.0)

TASK CODE	CARGO CAPCY	DRAFT	MANUV	SEA STATE	TOW
-----------	-------------	-------	-------	-----------	-----

CC	DF	MN	LS	TW
----	----	----	----	----

ON SCENE:

ASST	--	1.00	0.94	1.00	--	ASSIST
BRD	--	1.00	0.94	1.00	--	BOARD
MNAC	--	1.00	0.94	1.00	--	MONITOR ACTIVITIES
RTRV	--	1.00	0.94	1.00	--	RETRIEVE
WAIT	--	--	--	1.00	--	WAIT
WEQB	--	1.00	--	1.00	--	WORK EQUIPMENT @ DRIFT
WEQP	--	1.00	0.94	1.00	--	WORK EQUIPMENT @ POSITION

REDUCED SPEED:

SDIU	--	1.00	--	1.00	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	1.00	--	SLOW ESCORT
SPAT	--	1.00	--	1.00	--	SLOW PATROL
SPEC	--	1.00	--	1.00	--	SEARCH FOR PEOPLE
TOWS	--	--	1.00	1.00	0.98	TOWS

CRUISE SPEED:

ESC1	--	--	--	1.00	--	ESCORT
IDNT	--	--	1.00	1.00	--	IDENTIFY
PATL	--	--	--	1.00	--	PATROL
STGT	--	1.00	--	1.00	--	SEARCH FOR TARGET
TRPT	****	--	--	1.00	--	TRANSPORT
TRST	--	--	--	1.00	--	TRANSIT

FLANK SPEED:

RSPD	--	--	--	1.00	--	RESPOND
------	----	----	----	------	----	---------

\*\*\*\* DEPENDENT UPON SCENARIO (L.O.V. FOOTPRINT AND WEIGHT OF CARGO)

FIGURE A-15

CRAFT PARAMETERS

CRAFT TYPE CATAMARAN  
 DISPLACEMENT 94 TONS  
 LENGTH 95 FEET  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 2  
 TOW DISTRIBUTION NO. 4  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 6  
 (AVERAGE SEA STATE=4.0)

TASK CODE	CARGO CPTY	DRAFT DF	MANEUV MN	SEA STATE LS	TOW TW
-----------	------------	----------	-----------	--------------	--------

ON SCENE:

ASST	--	1.00	0.94	0.80	--	ASSIST
BRD	--	1.00	0.94	0.80	--	BOARD
MNAC	--	1.00	0.94	0.80	--	MONITOR ACTIVITIES
RTRV	--	1.00	0.94	0.80	--	RETRIEVE
WAIT	--	--	--	0.80	--	WAIT
WEQU	--	1.00	--	0.80	--	WORK EQUIPMENT @ DRIFT
WEGP	--	1.00	0.94	0.80	--	WORK EQUIPMENT @ POSITION

REDUCED SPEED:

SUIC	--	1.00	--	0.80	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	0.80	--	SLOW ESCORT
SPAT	--	1.00	--	0.80	--	SLOW PATROL
SPEO	--	1.00	--	0.80	--	SEARCH FOR PEOPLE
TOWS	--	--	1.00	0.80	0.98	TOWS

CRUISE SPEED:

ESCT	--	--	--	0.80	--	ESCORT
IDNT	--	--	1.00	0.80	--	IDENTIFY
PATL	--	--	--	0.80	--	PATROL
STGT	--	1.00	--	0.80	--	SEARCH FOR TARGET
TRPT	****	--	--	0.80	--	TRANSPORT
TRST	--	--	--	0.80	--	TRANSIT

FLANK SPEED:

RSPD	--	--	--	0.80	--	RESPOND
------	----	----	----	------	----	---------

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE A-16

C R A F T P A R A M E T E R S

CRAFT TYPE COAST GUARD WPB 95  
 DISPLACEMENT 100 TONS  
 LENGTH 95 FEET  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.27

VISIBILITY DISTRIBUTION NO. 1  
 TOW DISTRIBUTION NO. 4  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 4  
 (AVERAGE SEA STATE=2.0)

TASK CODE	CARGO CPCTY	DRAFT DF	MANEUV MN	SEA STATE LS	TOW Tw	
ON SCENE:						
ASST	--	1.00	0.94	1.00	--	ASSIST
BORD	--	1.00	0.94	1.00	--	BOARD
MNAC	--	1.00	0.94	1.00	--	MONITOR ACTIVITIES
RTRV	--	1.00	0.94	1.00	--	RETRIEVE
WAIT	--	--	--	1.00	--	WAIT
WEQD	--	1.00	--	1.00	--	WORK EQUIPMENT @ DRIFT
WEQP	--	1.00	0.94	1.00	--	WORK EQUIPMENT @ POSITION
REDUCED SPEED:						
SUIU	--	1.00	--	1.00	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	1.00	--	SLOW ESCORT
SPAT	--	1.00	--	1.00	--	SLOW PATROL
SPEO	--	1.00	--	1.00	--	SEARCH FOR PEOPLE
TOWS	--	--	0.50	1.00	1.00	TOWS
CRUISE SPEED:						
ESCT	--	--	--	0.62	--	ESCORT
IDNT	--	--	1.00	0.62	--	IDENTIFY
PATL	--	--	--	0.62	--	PATROL
STGT	--	1.00	--	0.62	--	SEARCH FOR TARGET
TRPT	****	--	--	0.62	--	TRANSPORT
TRST	--	--	--	0.62	--	TRANSIT
FLANK SPEED:						
RSPD	--	--	--	0.80	--	RESPOND

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE A-17

C R A F T P A R A M E T E R S

CRAFT TYPE COAST GUARD WPB 95  
 DISPLACEMENT 100 TONS  
 LENGTH 95 FEET  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.27

VISIBILITY DISTRIBUTION NO. 2  
 TOW DISTRIBUTION NO. 4  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 8  
 (AVERAGE SEA STATE=4.0)

TASK CODE	CARGO CPCTY	DRAFT DF	MANEUV MN	SEA STATE LS	TOW TW	
ON SCENE:						
ASST	--	1.00	0.94	1.00	--	ASSIST
BORD	--	1.00	0.94	1.00	--	BOARD
MNAC	--	1.00	0.94	1.00	--	MONITOR ACTIVITIES
KTRV	--	1.00	0.94	1.00	--	RETRIEVE
WAIT	--	--	--	1.00	--	WAIT
WEQD	--	1.00	--	1.00	--	WORK EQUIPMENT @ DRIFT
WEGP	--	1.00	0.94	1.00	--	WORK EQUIPMENT @ POSITION
REDUCED SPEED:						
SDIU	--	1.00	--	0.91	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	0.91	--	SLOW ESCORT
SPAT	--	1.00	--	0.91	--	SLOW PATROL
SPEO	--	1.00	--	0.91	--	SEARCH FOR PEOPLE
TOWS	--	--	0.50	0.91	1.00	TOWS
CRUISE SPEED:						
ESCT	--	--	--	0.10	--	ESCORT
IDNT	--	--	1.00	0.10	--	IDENTIFY
PATL	--	--	--	0.10	--	PATROL
STGT	--	1.00	--	0.10	--	SEARCH FOR TARGET
TRPT	****	--	--	0.10	--	TRANSPORT
TRST	--	--	--	0.10	--	TRANSIT
FLANK SPEED:						
RSPD	--	--	--	0.10	--	RESPOND

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE A-18

C R A F T P A R A M E T E R S

CRAFT TYPE PLANING CRAFT  
 DISPLACEMENT 96 TONS  
 LENGTH 100 FEET  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 1  
 TOW DISTRIBUTION NO. 4  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 4  
 (AVERAGE SEA STATE=2.0)

TASK CODE	CARGO CPCTY	DRAFT DF	MANEUV MN	SEA STATE LS	TOW TW	
ON SCENE:						
ASST	--	1.00	0.93	0.99	--	ASSIST
BORD	--	1.00	0.93	0.98	--	BOARD
MNAC	--	1.00	0.93	1.00	--	MONITOR ACTIVITIES
RTRV	--	1.00	0.93	0.95	--	RETRIEVE
WAIT	--	--	--	1.00	--	WAIT
WEQD	--	1.00	--	0.95	--	WORK EQUIPMENT @ DRIFT
WEQP	--	1.00	0.93	0.95	--	WORK EQUIPMENT @ POSITION
REDUCED SPEED:						
SDIU	--	1.00	--	0.99	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	1.00	--	SLOW ESCORT
SPAT	--	1.00	--	1.00	--	SLOW PATROL
SPEO	--	1.00	--	0.99	--	SEARCH FOR PEOPLE
TOWS	--	--	1.00	0.99	0.99	TOWS
CRUISE SPEED:						
ESCT	--	--	--	1.00	--	ESCORT
IDNT	--	--	1.00	0.87	--	IDENTIFY
PATL	--	--	--	1.00	--	PATROL
STGT	--	1.00	--	0.87	--	SEARCH FOR TARGET
TRPT	****	--	--	1.00	--	TRANSPORT
TRST	--	--	--	1.00	--	TRANSIT
FLANK SPEED:						
RSPD	--	--	--	1.00	--	RESPOND

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE A-19

C R A F T P A R A M E T E R S

CRAFT TYPE PLANING CRAFT  
 DISPLACEMENT 96 TONS  
 LENGTH 100 FEET  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 2  
 TOW DISTRIBUTION NO. 4  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 8  
 (AVERAGE SEA STATE=4.0)

TASK CODE	CARGO CPCTY	DRAFT DF	MANEUV MN	SEA STATE LS	TOW TW	
ON SCENE:						
ASST	--	1.00	0.93	0.76	--	ASSIST
BORD	--	1.00	0.93	0.63	--	BOARD
MNAC	--	1.00	0.93	0.80	--	MONITOR ACTIVITIES
RTRV	--	1.00	0.93	0.40	--	RETRIEVE
WAIT	--	--	--	0.80	--	WAIT
WEQD	--	1.00	--	0.48	--	WORK EQUIPMENT @ DRIFT
WEGP	--	1.00	0.93	0.48	--	WORK EQUIPMENT @ POSITION
REDUCED SPEED:						
SDIU	--	1.00	--	0.71	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	0.80	--	SLOW ESCORT
SPAT	--	1.00	--	0.80	--	SLOW PATROL
SPEO	--	1.00	--	0.71	--	SEARCH FOR PEOPLE
TOWS	--	--	1.00	0.71	0.99	TOWS
CRUISE SPEED:						
ESCT	--	--	--	0.80	--	ESCORT
IDNT	--	--	1.00	0.24	--	IDENTIFY
PATL	--	--	--	0.80	--	PATROL
STGT	--	1.00	--	0.24	--	SEARCH FOR TARGET
TRPT	****	--	--	0.80	--	TRANSPORT
TRST	--	--	--	0.80	--	TRANSIT
FLANK SPEED:						
RSPD	--	--	--	0.80	--	RESPOND

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE A-20

C R A F T P A R A M E T E R S

CRAFT TYPE SURFACE EFFECT SHIP  
 DISPLACEMENT 177 TONS  
 LENGTH 125 FEET  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 1  
 TOW DISTRIBUTION NO. 4  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 4  
 (AVERAGE SEA STATE=2.0)

TASK CODE	CARGO CPCTY	DRAFT DF	MANEUV MN	SEA STATE LS	TOW TW	
ON SCENE:						
ASST	--	1.00	0.90	1.00	--	ASSIST
BORD	--	1.00	0.90	1.00	--	BOARD
MNAC	--	1.00	0.90	1.00	--	MONITOR ACTIVITIES
RTRV	--	1.00	0.90	1.00	--	RETRIEVE
WAIT	--	--	--	1.00	--	WAIT
WEOD	--	1.00	--	1.00	--	WORK EQUIPMENT @ DRIFT
WEOP	--	1.00	0.90	1.00	--	WORK EQUIPMENT @ POSITION
REDUCED SPEED:						
SDIU	--	1.00	--	1.00	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	1.00	--	SLOW ESCORT
SPAT	--	1.00	--	1.00	--	SLOW PATROL
SPEO	--	1.00	--	1.00	--	SEARCH FOR PEOPLE
TOWS	--	--	1.00	1.00	1.00	TOWS
CRUISE SPEED:						
ESCT	--	--	--	1.00	--	ESCORT
IDNT	--	--	0.87	1.00	--	IDENTIFY
PATL	--	--	--	1.00	--	PATROL
STGT	--	1.00	--	1.00	--	SEARCH FOR TARGET
TRPT	****	--	--	1.00	--	TRANSPORT
TRST	--	--	--	1.00	--	TRANSIT
FLANK SPEED:						
RSPD	--	--	--	0.96	--	RESPOND

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE A-21

C R A F T P A R A M E T E R S

CRAFT TYPE SURFACE EFFECT SHIP  
 DISPLACEMENT 177 TONS  
 LENGTH 125 FEET  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 2  
 TOW DISTRIBUTION NO. 4  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 8  
 (AVERAGE SEA STATE=4.0)

TASK CODE	CARGO CAPCTY	DRAFT DF	MANEUV MN	SEA STATE LS	TOW TW	
ON SCENE:						
ASST	--	1.00	0.90	0.90	--	ASSIST
BOARD	--	1.00	0.90	0.80	--	BOARD
MNAC	--	1.00	0.90	0.90	--	MONITOR ACTIVITIES
RTRV	--	1.00	0.90	0.80	--	RETRIEVE
WAIT	--	--	--	0.90	--	WAIT
WEQD	--	1.00	--	0.80	--	WORK EQUIPMENT @ DRIFT
WEQP	--	1.00	0.90	0.80	--	WORK EQUIPMENT @ POSITION
REDUCED SPEED:						
SDIU	--	1.00	--	0.87	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	0.87	--	SLOW ESCORT
SPAT	--	1.00	--	0.87	--	SLOW PATROL
SPEO	--	1.00	--	0.87	--	SEARCH FOR PEOPLE
TOWS	--	--	1.00	0.87	1.00	TOWS
CRUISE SPEED:						
ESCT	--	--	--	0.80	--	ESCORT
IUNT	--	--	0.87	0.80	--	IDENTIFY
PATL	--	--	--	0.80	--	PATROL
STGT	--	1.00	--	0.80	--	SEARCH FOR TARGET
TRPT	****	--	--	0.80	--	TRANSPORT
TRST	--	--	--	0.80	--	TRANSIT
FLANK SPEED:						
RSPD	--	--	--	0.49	--	RESPOND

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE A-22

TASK PROBABILITIES OF SUCCESS

CRAFT TYPE CATAMARAN  
 DISPLACEMENT 94 TONS  
 LENGTH 95 FEET  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 1  
 TOW DISTRIBUTION NO. 4  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 4  
 (AVERAGE SEA STATE=2.6)

TASK TASK PROB. TASK  
 CODE OF SUCCESS

ON SCENE:

ASST 0.940 ASSIST  
 BORD 0.940 BOARD  
 MNAC 0.940 MONITOR ACTIVITIES  
 RTRV 0.940 RETRIEVE  
 WAIT 1.000 WAIT  
 WEQD 1.000 WORK EQUIPMENT @ DRIFT  
 WEQP 0.940 WORK EQUIPMENT @ POSITION

REDUCED SPEED:

SDIU 1.000\* SEARCH FOR DISTRESSED UNIT  
 SESC 1.000 SLOW ESCORT  
 SPAT 1.000 SLOW PATROL  
 SPEC 1.000\* SEARCH FOR PEOPLE  
 TOWS 0.902 TOWS

CRUISE SPEED:

ESCT 1.000 ESCORT  
 IDNT 1.000 IDENTIFY  
 PATL 1.000 PATROL  
 SIGT 1.000\* SEARCH FOR TARGET  
 TRPT \*\*\*\*\* TRANSPORT  
 TRST 1.000 TRANSIT

FLANK SPEED:

RSPD 0.999 RESPOND

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS  
 IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON  
 SCENARIO (E.G., SEARCH AREA)

\*\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE A-23

TASK PROBABILITIES OF SUCCESS

CRAFT TYPE CATAMARAN  
 DISPLACEMENT 94 TONS  
 LENGTH 95 FEET  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 2  
 TOW DISTRIBUTION NO. 4  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 8  
 (AVERAGE SEA STATE=4.5)

TASK TASK PROB. TASK  
 CODE OF SUCCESS

ON SCENE:

ASST	0.627	ASSIST
BOARD	0.627	BOARD
MNAC	0.627	MONITOR ACTIVITIES
RTRV	0.627	RETRIEVE
WAIT	0.830	WAIT
WEGD	0.830	WORK EQUIPMENT @ DRIFT
WEGP	0.627	WORK EQUIPMENT @ POSITION

REDUCED SPEED:

SDIU	0.800*	SEARCH FOR DISTRESSED UNIT
SESC	0.800	SLOW ESCORT
SPAT	0.800	SLOW PATROL
SPEO	0.800*	SEARCH FOR PEOPLE
TOWS	0.804	TOWS

CRUISE SPEED:

ESCT	0.800	ESCORT
IDNT	0.800	IDENTIFY
PATL	0.800	PATROL
STGT	0.800*	SEARCH FOR TARGET
TRPT	****	TRANSPORT
TRST	0.800	TRANSIT

FLANK SPEED:

RSPD	0.755	RESPOND
------	-------	---------

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON SCENARIO (E.G., SEARCH AREA)

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE A-24

T A S K P R O B A B I L I T I E S O F S U C C E S S

CRAFT TYPE COAST GUARD WPB 95  
 DISPLACEMENT 100 TONS  
 LENGTH 95 FEET  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.27

VISIBILITY DISTRIBUTION NO. 1  
 TOW DISTRIBUTION NO. 4  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 4  
 (AVERAGE SEA STATE=2.0)

TASK CODE	TASK PROB. OF SUCCESS	TASK
-----------	-----------------------	------

ON SCENE:

ASST	0.940	ASSIST
BORD	0.940	BOARD
MNAC	0.940	MONITOR ACTIVITIES
RTRV	0.940	RETRIEVE
WAIT	1.000	WAIT
WEGD	1.000	WORK EQUIPMENT @ DRIFT
WEGP	0.940	WORK EQUIPMENT @ POSITION

REDUCED SPEED:

SDIU	1.000*	SEARCH FOR DISTRESSED UNIT
SESC	1.000	SLOW ESCORT
SPAT	1.000	SLOW PATROL
SPEO	1.000*	SEARCH FOR PEOPLE
TOWS	0.500	TOWS

CRUISE SPEED:

ESCT	0.623	ESCORT
IDNT	0.623	IDENTIFY
PATL	0.623	PATROL
STGT	0.623*	SEARCH FOR TARGET
TRPT	*****	TRANSPORT
TRST	0.623	TRANSIT

FLANK SPEED:

RSPD	0.800	RESPOND
------	-------	---------

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON SCENARIO (E.G., SEARCH AREA)

\*\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE A-25

TASK PROBABILITIES OF SUCCESS

CRAFT TYPE COAST GUARD WPB 95  
 DISPLACEMENT 100 TONS  
 LENGTH 95 FEET  
 DESIGN SPEED 20 KNOTS  
 FULL FRACTION 0.27

VISIBILITY DISTRIBUTION NO. 2  
 TOW DISTRIBUTION NO. 4  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 8  
 (AVERAGE SEA STATE=4.0)

TASK CODE	TASK PROB. OF SUCCESS	TASK
ON SCENE:		
ASST	0.940	ASSIST
BOARD	0.940	BOARD
MNAC	0.940	MONITOR ACTIVITIES
RTRV	0.940	RETRIEVE
WAIT	1.000	WAIT
WEQD	1.000	WORK EQUIPMENT @ DRIFT
WEQP	0.940	WORK EQUIPMENT @ POSITION
REDUCED SPEED:		
SDIU	0.908*	SEARCH FOR DISTRESSED UNIT
SESC	0.908	SLOW ESCORT
SPAT	0.908	SLOW PATROL
SPEO	0.908*	SEARCH FOR PEOPLE
TOWS	0.454	TOWS
CRUISE SPEED:		
ESCT	0.103	ESCORT
IDNT	0.103	IDENTIFY
PATL	0.103	PATROL
STGT	0.103*	SEARCH FOR TARGET
TRPT	*****	TRANSPORT
TRST	0.103	TRANSIT
FLANK SPEED:		
RSPD	0.179	RESPOND

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS  
 IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON  
 SCENARIO (E.G., SEARCH AREA)

\*\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE A-26

T A S K P R O B A B I L I T I E S O F S U C C E S S

CRAFT TYPE PLANING CRAFT  
 DISPLACEMENT 96 TONS  
 LENGTH 100 FEET  
 DESIGN SPEED 40 KNOTS  
 FULL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 1  
 TOW DISTRIBUTION NO. 4  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 4  
 (AVERAGE SEA STATE=2.0)

TASK CODE	TASK PROB. OF SUCCESS	TASK
ON SCENE:		
ASST	0.927	ASSIST
BORD	0.910	BOARD
MNAC	0.933	MONITOR ACTIVITIES
RTRV	0.891	RETRIEVE
WAIT	1.000	WAIT
WEQD	0.954	WORK EQUIPMENT @ DRIFT
WEQP	0.891	WORK EQUIPMENT @ POSITION
REDUCED SPEED:		
SDIU	0.988*	SEARCH FOR DISTRESSED UNIT
SESC	1.000	SLOW ESCORT
SPAT	1.000	SLOW PATROL
SPEO	0.988*	SEARCH FOR PEOPLE
TOWS	0.975	TOWS
CRUISE SPEED:		
ESCT	1.000	ESCORT
IDNT	0.867	IDENTIFY
PATL	1.000	PATROL
STGT	0.867*	SEARCH FOR TARGET
TRPT	*****	TRANSPORT
TRST	1.000	TRANSIT
FLANK SPEED:		
RSPD	1.000	RESPOND

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON SCENARIO (E.G., SEARCH AREA)

\*\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE A-27

T A S K P R O B A B I L I T I E S O F S U C C E S S

CRAFT TYPL PLANING CRAFT  
 DISPLACEMENT 96 TONS  
 LENGTH 100 FEET  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 2  
 TOW DISTRIBUTION NO. 4  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 8  
 (AVERAGE SEA STATE=4.0)

TASK CODE	TASK PROB. OF SUCCESS	TASK
ON SCENE:		
ASST	0.705	ASSIST
BORD	0.507	BOARD
MNAC	0.747	MONITOR ACTIVITIES
RTRV	0.448	RETRIEVE
WAIT	0.800	WAIT
WEGD	0.400	WORK EQUIPMENT @ DRIFT
WEGP	0.446	WORK EQUIPMENT @ POSITION
REDUCED SPEED:		
SDIU	0.715*	SEARCH FOR DISTRESSED UNIT
SESC	0.800	SLOW ESCORT
SPAT	0.800	SLOW PATROL
SPEO	0.715*	SEARCH FOR PEOPLE
TOWS	0.700	TOWS
CRUISE SPEED:		
ESCT	0.800	ESCORT
IDNT	0.242	IDENTIFY
PATL	0.800	PATROL
STGT	0.242*	SEARCH FOR TARGET
TRPT	*****	TRANSPORT
TRST	0.800	TRANSIT
FLANK SPEED:		
RSPD	0.800	RESPOND

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON SCENARIO (E.G., SEARCH AREA)

\*\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE A-28

T A S K P R O B A B I L I T I E S O F S U C C E S S

CRAFT TYPE SURFACE EFFECT SHIP  
 DISPLACEMENT 177 TONS  
 LENGTH 125 FEET  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 1  
 TOW DISTRIBUTION NO. 4  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 4  
 (AVERAGE SEA STATE=2.0)

TASK CODE	TASK PROB. OF SUCCESS	TASK
ON SCENE:		
ASST	0.900	ASSIST
BORD	0.900	BOARD
MNAC	0.900	MONITOR ACTIVITIES
RTRV	0.900	RETRIEVE
WAIT	1.000	WAIT
WEQD	1.000	WORK EQUIPMENT @ DRIFT
WEQP	0.900	WORK EQUIPMENT @ POSITION
REDUCED SPEED:		
SDIU	1.000*	SEARCH FOR DISTRESSED UNIT
SESC	1.000	SLOW ESCORT
SPAT	1.000	SLOW PATROL
SPEO	1.000*	SEARCH FOR PEOPLE
TOWS	1.000	TOWS
CRUISE SPEED:		
ESCT	1.000	ESCORT
IDNT	0.874	IDENTIFY
PATL	1.000	PATROL
STGT	1.000*	SEARCH FOR TARGET
TRPT	*****	TRANSPORT
TRST	1.000	TRANSIT
FLANK SPEED:		
RSPD	0.956	RESPOND

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON SCENARIO (E.G., SEARCH AREA)

\*\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE A-29

T A S K P R O B A B I L I T I E S O F S U C C E S S

CRAFT TYPE SURFACE EFFECT SHIP  
 DISPLACEMENT 177 TONS  
 LENGTH 125 FEET  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 2  
 TOW DISTRIBUTION NO. 4  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 8  
 (AVERAGE SEA STATE=4.0)

TASK CODE	TASK PROB. OF SUCCESS	TASK
ON SCENE:		
ASST	0.810	ASSIST
BOARD	0.789	BOARD
MNAC	0.810	MONITOR ACTIVITIES
RTRV	0.743	RETRIEVE
WAIT	0.900	WAIT
WEGD	0.825	WORK EQUIPMENT @ DRIFT
WEGP	0.743	WORK EQUIPMENT @ POSITION
REDUCED SPEED:		
SDIU	0.875*	SEARCH FOR DISTRESSED UNIT
SESC	0.875	SLOW ESCORT
SPAT	0.875	SLOW PATROL
SPEO	0.875*	SEARCH FOR PEOPLE
TOWS	0.875	TOWS
CRUISE SPEED:		
ESCT	0.800	ESCORT
IDNT	0.699	IDENTIFY
PATL	0.800	PATROL
STGT	0.800*	SEARCH FOR TARGET
TRPT	*****	TRANSPORT
TRST	0.800	TRANSIT
FLANK SPEED:		
RSPD	0.494	RESPOND

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON SCENARIO (E.G., SEARCH AREA)

\*\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE A-30

SAR SCENARIO 1  
 SORTIE NUMBER 6

OPERATIONAL REQUIREMENTS:

SELECTED CRAFT:

MAXIMUM DURATION 12.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 2.0

CATAMARAN  
 DISPLACEMENT 94 TONS  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
					1
STEAM	*DASH	150101 150103 150102	0.9	418	1.00
					6
SAR SEARCH		100101 100104			
	*SEARCH DSTR UNIT: FOUND	100102	2.3	299	1.00
					4
ASSIST		10101			
	*BOARD	10103	0.1	5	0.94
	*ON BOARD ASSISTANCE	10104	0.5	27	1.00
	*RETRIEVE BOARDING PARTY	10102	0.1	5	0.94
					5
RESCUE RETURN		90101			
	*SLOW ESCORT	90103 90102	3.0	388	1.00
					2
TIME TO COMPLETE SORTIE (HRS)			6.9		
FUEL CONSUMED IN SORTIE (GALS)				1145	
SORTIE PROBABILITY OF SUCCESS					0.9394
SORTIE FREQUENCY OF OCCURRENCE					0.0244

FIGURE A-31

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

SAR SCENARIO 1

OPERATIONAL REQUIREMENTS:		SELECTED CRAFT:	
MAXIMUM DURATION	12.0 HOURS	CATAMAKAN	
RANGE FRACTION	0.50	DISPLACEMENT	94 TONS
VISIBILITY	VERY GOOD	DESIGN SPEED	40 KNOTS
AVERAGE SEA STATE	2.0	FUEL FRACTION	0.50

FRACTION OF SCENARIO COMPLETED 0.9813

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FULL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	7.3	1169	0.0585	0.9224	0.0539
2	7.2	1162	0.0697	0.9394	0.0092
3	5.3	1168	0.0292	0.9394	0.0275
4	4.9	1037	0.0244	0.9394	0.0229
5	7.0	1152	0.1462	0.9224	0.1348
6	6.9	1145	0.0244	0.9394	0.0229
7	5.0	1151	0.0731	0.9394	0.0687
8	4.6	1020	0.0609	0.9394	0.0572
9	7.0	1152	0.0877	0.9224	0.0809
10	6.9	1145	0.0146	0.9394	0.0137
11	5.0	1151	0.0439	0.9394	0.0412
12	4.6	1020	0.0365	0.9394	0.0343
13	9.6	1718	0.0909	0.9993	0.0908
14	11.7	1896	0.0120	0.9224	0.0111
15	11.7	1890	0.0020	0.9394	0.0019
16	9.7	1896	0.0066	0.9394	0.0056
17	9.4	1764	0.0050	0.9394	0.0047
18	11.4	1880	0.0301	0.9224	0.0277
19	11.4	1873	0.0050	0.9394	0.0047
20	9.4	1879	0.0150	0.9394	0.0141
21	9.1	1748	0.0125	0.9394	0.0118
22	11.4	1880	0.0180	0.9224	0.0166
23	11.4	1873	0.0030	0.9394	0.0028
24	9.4	1879	0.0090	0.9394	0.0085
25	9.1	1748	0.0075	0.9394	0.0071
26	7.4	1228	0.0071	0.9224	0.0065
27	6.1	1228	0.0030	0.9394	0.0028

FIGURE A-32

28	6.1	1228	0.0151	0.9354	0.0142
29	7.4	1228	0.0050	0.9224	0.0028
30	6.1	1228	0.0013	0.9354	0.0012
31	6.1	1228	0.0065	0.9354	0.0061
32	9.1	1504	0.0080	0.9224	0.0074
33	9.1	1698	0.0013	0.9354	0.0013
34	7.1	1504	0.0040	0.9354	0.0038
35	6.8	1772	0.0033	0.9354	0.0031
36	8.8	1888	0.0200	0.9224	0.0185
37	8.8	1881	0.0033	0.9354	0.0031
38	6.8	1887	0.0100	0.9354	0.0094
39	6.5	1755	0.0084	0.9354	0.0078
40	6.8	1888	0.0120	0.9224	0.0111
41	8.8	1881	0.0020	0.9354	0.0019
42	6.8	1887	0.0060	0.9354	0.0056
43	6.5	1755	0.0050	0.9354	0.0047
44	11.5	2454	0.0125	0.9993	0.0125
45	4.8	1236	0.0047	0.9224	0.0043
46	3.5	1235	0.0020	0.9354	0.0019
47	3.5	1235	0.0101	0.9354	0.0095
48	4.8	1236	0.0020	0.9224	0.0019
49	3.5	1235	0.0089	0.9354	0.0088
50	3.5	1235	0.0043	0.9354	0.0041

FIGURE A-32  
(continued)



\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

SAR SCENARIO 1

OPERATIONAL REQUIREMENTS:		SELECTED CRAFT:	
MAXIMUM DURATION	12.0 HOURS	CATAMARAN	
RANGE FRACTION	0.50	DISPLACEMENT	94 TONS
VISIBILITY	GOOD	DESIGN SPEED	40 KNOTS
AVERAGE SEA STATE	4.0	FUEL FRACTION	0.50

FRACTION OF SCENARIO COMPLETED 0.6935

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FUEL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	7.9	1659	0.0563	0.7340	0.0413
2	7.8	1652	0.0094	0.7476	0.0070
3	6.4	1518	0.0281	0.7476	0.0210
4	5.9	1334	0.0234	0.7476	0.0175
5	7.6	1642	0.1407	0.7340	0.1033
6	7.5	1536	0.0234	0.7476	0.0175
7	6.1	1501	0.0703	0.7476	0.0526
8	5.6	1317	0.0586	0.7476	0.0438
9	7.6	1642	0.0844	0.7340	0.0620
10	7.5	1536	0.0141	0.7476	0.0105
11	6.1	1501	0.0422	0.7476	0.0316
12	5.6	1317	0.0352	0.7476	0.0263
13	10.5	2004	0.1138	0.7953	0.0905
14	11.1	2536	0.0058	0.7476	0.0043
15	10.6	2151	0.0048	0.7476	0.0036
16	10.8	2319	0.0145	0.7476	0.0108
17	10.3	2135	0.0121	0.7476	0.0090
18	10.8	2319	0.0087	0.7476	0.0065
19	10.3	2135	0.0072	0.7476	0.0054
20	8.0	1408	0.0071	0.7340	0.0052
21	7.0	1515	0.0030	0.7476	0.0023
22	7.0	1515	0.0151	0.7476	0.0113
23	8.0	1408	0.0030	0.7340	0.0022
24	7.0	1515	0.0013	0.7476	0.0010
25	7.0	1515	0.0065	0.7476	0.0048
26	10.7	2398	0.0077	0.7340	0.0057
27	10.7	2391	0.0013	0.7476	0.0010
28	9.3	2557	0.0039	0.7476	0.0029
29	8.7	2372	0.0032	0.7476	0.0024
30	10.4	2381	0.0193	0.7340	0.0142
31	10.4	2375	0.0032	0.7476	0.0024

FIGURE A-34

<del>32</del>	<del>9.0</del>	<del>2540</del>	<del>0.0096</del>	<del>0.7476</del>	<del>0.0072</del>
<del>33</del>	<del>8.4</del>	<del>2556</del>	<del>0.0080</del>	<del>0.7476</del>	<del>0.0060</del>
<del>34</del>	<del>10.4</del>	<del>2581</del>	<del>0.0116</del>	<del>0.7340</del>	<del>0.0085</del>
<del>35</del>	<del>10.4</del>	<del>2375</del>	<del>0.0019</del>	<del>0.7476</del>	<del>0.0014</del>
<del>36</del>	<del>9.0</del>	<del>2540</del>	<del>0.0058</del>	<del>0.7476</del>	<del>0.0043</del>
<del>37</del>	<del>8.4</del>	<del>2556</del>	<del>0.0048</del>	<del>0.7476</del>	<del>0.0036</del>
<del>38</del>	<del>6.1</del>	<del>1630</del>	<del>0.0047</del>	<del>0.7340</del>	<del>0.0035</del>
<del>39</del>	<del>5.1</del>	<del>1730</del>	<del>0.0020</del>	<del>0.7476</del>	<del>0.0015</del>
<del>40</del>	<del>5.1</del>	<del>1736</del>	<del>0.0101</del>	<del>0.7476</del>	<del>0.0075</del>
<del>41</del>	<del>6.1</del>	<del>1630</del>	<del>0.0020</del>	<del>0.7340</del>	<del>0.0015</del>
<del>42</del>	<del>5.1</del>	<del>1736</del>	<del>0.0009</del>	<del>0.7476</del>	<del>0.0006</del>
<del>43</del>	<del>5.1</del>	<del>1736</del>	<del>0.0043</del>	<del>0.7476</del>	<del>0.0032</del>

FIGURE A-34  
(continued)

SAR SCENARIO 1  
 SORTIE NUMBER 24

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 12.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 2.0

SELECTED CRAFT:

WPB 95  
 DISPLACEMENT 100 TONS  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.27

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
		1			
STEAM		150201			
	*DASH	150203	1.8	237	0.80
		150202			
		7			
PATROL		70101			
	*PATROL	70103	4.7	412	0.62
		70102			
		8			
ASSIST		10201			
	*BOARD	10203	0.1	0	0.94
	*ON BOARD ASSISTANCE	10204	0.3	2	1.00
	*RETRIEVE BOARDING PARTY	10202	0.1	0	0.94
		9			
		e			
STEAM		150401			
	*TRANSIT	150402	2.3	206	0.62
		2			
TIME TO COMPLETE SORTIE (HRS)			9.3		
FUEL CONSUMED IN SORTIE (GALS)				860	
SORTIE PROBABILITY OF SUCCESS					0.5854
SORTIE FREQUENCY OF OCCURRENCE					0.0043

FIGURE A-35

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

SAR SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 12.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 2.0

SELECTED CRAFT:

WPB 95  
 DISPLACEMENT 100 TONS  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.27

FRACTION OF SCENARIO COMPLETED 0.6687

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FUEL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	8.2	438	0.0584	0.4000	0.0234
2	8.2	438	0.0097	0.7520	0.0073
3	8.6	638	0.0292	0.5854	0.0171
4	7.5	535	0.0243	0.5854	0.0143
5	7.9	436	0.1461	0.4000	0.0584
6	7.9	434	0.0243	0.7520	0.0183
7	8.3	636	0.0730	0.5854	0.0428
8	7.2	532	0.0609	0.5854	0.0356
9	7.9	436	0.0877	0.4000	0.0351
10	7.9	434	0.0146	0.7520	0.0110
11	8.3	636	0.0438	0.5854	0.0257
12	7.2	532	0.0365	0.5854	0.0214
13	8.4	458	0.0071	0.4000	0.0028
14	8.7	591	0.0030	0.5854	0.0018
15	8.7	591	0.0151	0.5854	0.0089
16	8.4	458	0.0030	0.4000	0.0012
17	8.7	591	0.0013	0.5854	0.0008
18	8.7	591	0.0065	0.5854	0.0038
19	9.0	727	0.0047	0.3114	0.0015
20	9.3	860	0.0020	0.5854	0.0012
21	9.3	860	0.0101	0.5854	0.0059
22	9.0	727	0.0020	0.3114	0.0006
23	9.3	860	0.0009	0.5854	0.0005
24	9.3	860	0.0043	0.5854	0.0025

FIGURE A-36

SAR SCENARIO 1  
 SORTIE NUMBER 8

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 12.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 4.0

SELECTED CRAFT:

WPB 95  
 DISPLACEMENT 100 TONS  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.27

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK PUS
		1			
STEAM		150101			
	*DASH	150103	2.7	334	0.18
		150102			
		3			
SAR SEARCH		100101			
		100104			
	*SEARCH DSTR UNIT: FOUND	100102	2.4	85	0.91
		4			
ASSIST		10101			
	*BOARD	10103	0.1	0	0.94
	*ON BOARD ASSISTANCE	10104	0.5	3	1.00
	*RETRIEVE BOARDING PARTY	10102	0.1	0	0.94
		5			
		6			
STEAM		150401			
	*TRANSIT	150402	3.9	341	0.10
		2			
TIME TO COMPLETE SORTIE (HRS)			9.7		
FUEL CONSUMED IN SORTIE (GALS)				766	
SORTIE PROBABILITY OF SUCCESS					0.0964
SORTIE FREQUENCY OF OCCURRENCE					0.0569

FIGURE A-37

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

SAR SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 12.0 HOURS  
 RANGE FRACTION 0.50  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 4.0

SELECTED CRAFT:

WPB 95  
 DISPLACEMENT 100 TONS  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.27

FRACTION OF SCENARIO COMPLETED 0.6048

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FUEL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	9.2	535	0.0546	0.0893	0.0049
2	9.1	534	0.0091	0.1679	0.0015
3	11.9	939	0.0273	0.0964	0.0026
4	10.0	768	0.0228	0.0964	0.0022
5	8.9	533	0.1365	0.0893	0.0122
6	8.8	531	0.0228	0.1679	0.0038
7	11.6	936	0.0683	0.0964	0.0066
8	9.7	766	0.0569	0.0964	0.0055
9	8.9	533	0.0819	0.0893	0.0073
10	8.8	531	0.0137	0.1679	0.0023
11	11.6	936	0.0410	0.0964	0.0039
12	9.7	766	0.0341	0.0964	0.0033
13	9.2	552	0.0071	0.0893	0.0006
14	11.1	821	0.0030	0.0964	0.0003
15	11.1	821	0.0151	0.0964	0.0015
16	9.2	552	0.0030	0.0893	0.0003
17	11.1	821	0.0013	0.0964	0.0001
18	11.1	821	0.0065	0.0964	0.0006

FIGURE A-38

SAR SCENARIO 1  
 SORTIE NUMBER 32

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 12.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 2.0

SELECTED CRAFT:

PLANING CRAFT  
 DISPLACEMENT 96 TONS  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
		1			
STEAM		150201			
	*DASH	150203	0.9	414	1.00
		150202			
		7			
PATROL		70101			
	*PATROL	70103	1.3	560	1.00
		70102			
		8			
STEAM		150301			
	*DASH	150303	0.4	207	1.00
		150302			
		3			
SAR SEARCH		100101			
		100104			
	*SEARCH DSTR UNIT: FOUND	100102	2.3	628	0.99
		4			
ASSIST		10101			
	*GENERAL ASSISTANCE	10102	1.0	23	0.93
		5			
RESCUE RETURN		90101			
	*TOW	90102	3.0	829	0.98
		2			
TIME TO COMPLETE SORTIE (HRS)			9.0		
FUEL CONSUMED IN SORTIE (GALS)				2663	
SORTIE PROBABILITY OF SUCCESS					0.9101
SORTIE FREQUENCY OF OCCURRENCE					0.0080

FIGURE A-39

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

SAR SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 12.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 2.0

SELECTED CRAFT:

PLANING CRAFT  
 DISPLACEMENT 96 TONS  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

FRACTION OF SCENARIO COMPLETED 0.9813

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FUEL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	7.2	1895	0.0585	0.9101	0.0532
2	7.2	1882	0.0097	0.9219	0.0090
3	5.2	1486	0.0292	0.9219	0.0270
4	4.9	1346	0.0244	0.9219	0.0225
5	6.9	1888	0.1462	0.8988	0.1314
6	6.9	1875	0.0244	0.9104	0.0222
7	4.9	1479	0.0731	0.9104	0.0665
8	4.6	1339	0.0609	0.9104	0.0555
9	6.9	1888	0.0877	0.8792	0.0771
10	6.9	1875	0.0146	0.8906	0.0130
11	4.9	1479	0.0439	0.8906	0.0391
12	4.6	1339	0.0365	0.8906	0.0325
13	9.5	2870	0.0909	0.9878	0.0898
14	11.7	3190	0.0120	0.9101	0.0109
15	11.6	3177	0.0020	0.9219	0.0018
16	9.6	2781	0.0060	0.9219	0.0055
17	9.3	2641	0.0050	0.9219	0.0046
18	11.4	3183	0.0301	0.8988	0.0270
19	11.3	3170	0.0050	0.9104	0.0046
20	9.3	2774	0.0150	0.9104	0.0137
21	9.0	2634	0.0125	0.9104	0.0114
22	11.4	3183	0.0180	0.8792	0.0159
23	11.3	3170	0.0030	0.8906	0.0027
24	9.3	2774	0.0090	0.8906	0.0080
25	9.0	2634	0.0075	0.8906	0.0067
26	7.4	2066	0.0071	0.9101	0.0064
27	6.0	1794	0.0030	0.9273	0.0028
28	6.0	1794	0.0151	0.9273	0.0140
29	7.4	2066	0.0030	0.8988	0.0027
30	6.0	1794	0.0013	0.9104	0.0012
31	6.0	1794	0.0065	0.9104	0.0059

FIGURE A-40

32	9.0	2663	0.0080	0.9101	0.0073
33	9.0	2649	0.0013	0.9219	0.0012
34	7.0	2254	0.0040	0.9219	0.0037
35	6.6	2114	0.0033	0.9219	0.0031
36	8.7	2656	0.0200	0.8988	0.0180
37	8.7	2642	0.0033	0.9104	0.0030
38	6.7	2247	0.0100	0.9104	0.0091
39	6.3	2107	0.0084	0.9104	0.0076
40	8.7	2656	0.0120	0.8792	0.0106
41	8.7	2642	0.0020	0.8906	0.0018
42	6.7	2247	0.0060	0.8906	0.0054
43	6.3	2107	0.0050	0.8906	0.0045
44	11.3	3638	0.0125	0.9878	0.0123
45	4.8	1539	0.0047	0.9101	0.0043
46	3.4	1266	0.0020	0.9273	0.0019
47	3.4	1266	0.0101	0.9273	0.0093
48	4.8	1539	0.0020	0.8988	0.0018
49	3.4	1266	0.0009	0.9104	0.0008
50	3.4	1266	0.0043	0.9104	0.0039

FIGURE A-40  
(continued)

SAR SCENARIO 1  
 SORTIE NUMBER 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 12.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 4.0

SELECTED CRAFT:

PLANING CRAFT  
 DISPLACEMENT 96 TONS  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
		1			
STEAM		150101			
	*DASH	150103	1.2	504	0.80
		150102			
		3			
SAR SEARCH		100101			
		100104			
	*SEARCH DSTR UNIT: FOUND	100102	2.4	589	0.71
		4			
ASSIST		10101			
	*GENERAL ASSISTANCE	10102	1.1	25	0.70
		5			
		6			
STEAM		150401			
	*TRANSIT	150402	0.9	330	0.80
		2			
TIME TO COMPLETE SORTIE (HRS)			5.6		
FUEL CONSUMED IN SORTIE (GALS)				1446	
SORTIE PROBABILITY OF SUCCESS					0.6671
SORTIE FREQUENCY OF OCCURRENCE					0.0243

FIGURE A-41

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

SAR SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 12.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 4.0

SELECTED CRAFT:

PLANING CRAFT  
 DISPLACEMENT 96 TONS  
 DESIGN SPEED 40 KNOTS  
 FULL FRACTION 0.50

FRACTION OF SCENARIO COMPLETED 0.9545

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FUEL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	7.7	1880	0.0584	0.6586	0.0384
2	7.7	1867	0.0097	0.6671	0.0065
3	6.0	1614	0.0292	0.6671	0.0195
4	5.6	1448	0.0243	0.6671	0.0162
5	7.3	1871	0.1459	0.5790	0.0845
6	7.3	1859	0.0243	0.5865	0.0143
7	5.6	1605	0.0730	0.5865	0.0428
8	5.2	1440	0.0608	0.5865	0.0357
9	7.3	1871	0.0876	0.4425	0.0387
10	7.3	1859	0.0146	0.4483	0.0065
11	5.6	1605	0.0438	0.4483	0.0196
12	5.2	1440	0.0365	0.4483	0.0164
13	10.1	2833	0.0920	0.7148	0.0658
14	10.6	2865	0.0060	0.6671	0.0040
15	10.2	2700	0.0050	0.6671	0.0033
16	12.0	3123	0.0300	0.5790	0.0174
17	11.9	3111	0.0050	0.5865	0.0029
18	10.3	2857	0.0150	0.5865	0.0088
19	9.8	2691	0.0125	0.5865	0.0073
20	12.0	3123	0.0180	0.4425	0.0080
21	11.9	3111	0.0030	0.4483	0.0013
22	10.3	2857	0.0090	0.4483	0.0040
23	9.8	2691	0.0075	0.4483	0.0034
24	7.8	2024	0.0071	0.6586	0.0046
25	6.7	1846	0.0030	0.7046	0.0021
26	6.7	1846	0.0151	0.7046	0.0107
27	7.8	2023	0.0030	0.5790	0.0018
28	6.6	1846	0.0013	0.5865	0.0008
29	6.6	1846	0.0065	0.5865	0.0038
30	10.1	2793	0.0080	0.6586	0.0053
31	10.1	2780	0.0013	0.6671	0.0009
32	8.4	2527	0.0040	0.6671	0.0027
33	8.0	2361	0.0033	0.6671	0.0022

FIGURE A-42

34	9.6	2784	0.0200	0.5790	0.0116
35	9.7	2772	0.0033	0.5865	0.0020
36	8.1	2518	0.0100	0.5865	0.0059
37	7.6	2353	0.0083	0.5865	0.0049
38	9.8	2784	0.0120	0.4425	0.0053
39	9.7	2772	0.0020	0.4483	0.0009
40	8.1	2518	0.0060	0.4483	0.0027
41	7.6	2353	0.0050	0.4483	0.0022
42	5.6	1685	0.0047	0.6586	0.0031
43	4.5	1508	0.0020	0.7046	0.0014
44	4.5	1508	0.0101	0.7046	0.0071
45	5.6	1684	0.0020	0.5790	0.0012
46	4.4	1507	0.0009	0.5865	0.0005
47	4.4	1507	0.0043	0.5865	0.0025

FIGURE A-42  
(continued)

SAR SCENARIO 1  
 SORTIE NUMBER 5

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 12.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 2.0

SELECTED CRAFT:

SURFACE EFFECT SHIP  
 DISPLACEMENT 177 TONS  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
		1			
STEAM		150101			
	*DASH	150103	1.0	302	0.96
		150102			
		3			
SAR SEARCH		100101			
		100104			
	*SEARCH DSTR UNIT: FOUND	100102	2.3	825	1.00
		4			
ASSIST		10101			
	*BOARD	10103	0.1	31	0.90
	*ON BOARD ASSISTANCE	10104	0.5	136	1.00
	*RETRIEVE BOARDING PARTY	10102	0.1	31	0.90
		5			
RESCUE RETURN		90101			
	*TOW	90102	3.0	1069	1.00
		2			
			7.1		
				2397	
					0.8607
					0.1461

FIGURE A-43

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

SAR SCENARIO

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 12.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 2.0

SELECTED CRAFT:

SURFACE EFFECT SHIP  
 DISPLACEMENT 177 TONS  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

FRACTION OF SCENARIO COMPLETED 0.9812

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FUEL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	7.3	2470	0.0584	0.8607	0.0503
2	7.3	2465	0.0097	0.8607	0.0084
3	5.4	1674	0.0292	0.8607	0.0251
4	5.0	1583	0.0243	0.8607	0.0210
5	7.1	2397	0.1461	0.8607	0.1257
6	7.1	2392	0.0243	0.8607	0.0210
7	5.1	1601	0.0730	0.8607	0.0629
8	4.8	1510	0.0609	0.8607	0.0524
9	7.1	2397	0.0877	0.8607	0.0754
10	7.1	2392	0.0146	0.8607	0.0126
11	5.1	1601	0.0438	0.8607	0.0377
12	4.8	1510	0.0365	0.8607	0.0314
13	9.7	3322	0.0913	0.9563	0.0873
14	11.8	4040	0.0120	0.8607	0.0103
15	11.8	4036	0.0020	0.8607	0.0017
16	9.9	3244	0.0060	0.8607	0.0052
17	9.5	3153	0.0050	0.8607	0.0043
18	11.6	3968	0.0301	0.8607	0.0259
19	11.6	3963	0.0050	0.8607	0.0043
20	9.6	3171	0.0150	0.8607	0.0129
21	9.3	3080	0.0125	0.8607	0.0108
22	11.6	3968	0.0180	0.8607	0.0155
23	11.6	3963	0.0030	0.8607	0.0026
24	9.6	3171	0.0090	0.8607	0.0078
25	9.3	3080	0.0075	0.8607	0.0065
26	7.5	2571	0.0071	0.8607	0.0061
27	6.2	2040	0.0030	0.8607	0.0026
28	6.2	2040	0.0151	0.8607	0.0130
29	7.5	2580	0.0030	0.8607	0.0026
30	6.2	2049	0.0013	0.8607	0.0011
31	6.2	2049	0.0065	0.8607	0.0056

FIGURE A-44

32	9.2	2985	0.0080	0.8607	0.0069
33	9.2	2980	0.0013	0.8607	0.0011
34	7.3	2189	0.0040	0.8607	0.0034
35	6.9	2098	0.0033	0.8607	0.0029
36	9.0	2912	0.0200	0.8607	0.0172
37	9.0	2907	0.0033	0.8607	0.0029
38	7.0	2116	0.0100	0.8607	0.0086
39	6.7	2025	0.0083	0.8607	0.0072
40	9.0	2912	0.0120	0.8607	0.0103
41	9.0	2907	0.0020	0.8607	0.0017
42	7.0	2116	0.0060	0.8607	0.0052
43	6.7	2025	0.0050	0.8607	0.0043
44	11.6	3838	0.0125	0.9563	0.0120
45	4.9	1515	0.0047	0.8607	0.0040
46	3.6	984	0.0020	0.8607	0.0017
47	3.6	984	0.0101	0.8607	0.0087
48	4.9	1524	0.0020	0.8607	0.0017
49	3.6	993	0.0009	0.8607	0.0007
50	3.6	993	0.0043	0.8607	0.0037

FIGURE A-44  
(continued)

SAR SCENARIO 1  
 SORTIE NUMBER 6

OPERATIONAL REQUIREMENTS:  
 MAXIMUM DURATION 12.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 4.0

SELECTED CRAFT:  
 SURFACE EFFECT SHIP  
 DISPLACEMENT 177 TONS  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
		1			
STEAM		150101			
	*DASH	150103	2.0	613	0.49
		150102			
		3			
SAR SEARCH		100101			
		100104			
	*SEARCH DSTR UNIT: FOUND	100102	2.4	861	0.88
		4			
ASSIST		10101			
	*BOARD	10103	0.1	31	0.79
	*ON BOARD ASSISTANCE	10104	0.5	136	0.90
	*RETRIEVE BOARDING PARTY	10102	0.1	31	0.79
		5			
RESCUE RETURN		90101			
	*SLOW ESCORT	90103	3.0	1066	0.88
		90102			
		2			
TIME TO COMPLETE SORTIE (HRS)			8.2		
FUEL CONSUMED IN SORTIE (GALS)				2741	
SORTIE PROBABILITY OF SUCCESS					0.4444
SORTIE FREQUENCY OF OCCURRENCE					0.0226

FIGURE A-45

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

SAR SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 12.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 4.0

SELECTED CRAFT:

SURFACE EFFECT SHIP  
 DISPLACEMENT 177 TONS  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

FRACTION OF SCENARIO COMPLETED 0.8520

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FUEL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	8.5	2819	0.0542	0.4444	0.0241
2	8.5	2814	0.0090	0.4444	0.0040
3	7.5	2278	0.0271	0.4444	0.0120
4	6.8	2101	0.0226	0.4444	0.0100
5	8.2	2746	0.1355	0.4444	0.0602
6	8.2	2741	0.0226	0.4444	0.0100
7	7.2	2205	0.0677	0.4444	0.0301
8	6.6	2028	0.0565	0.4444	0.0251
9	8.2	2746	0.0813	0.4444	0.0361
10	8.2	2741	0.0135	0.4444	0.0060
11	7.2	2205	0.0406	0.4444	0.0181
12	6.6	2028	0.0339	0.4444	0.0151
13	11.4	3811	0.1354	0.4938	0.0669
14	11.8	3630	0.0046	0.4444	0.0021
15	11.6	3757	0.0116	0.4444	0.0052
16	11.6	3757	0.0070	0.4444	0.0031
17	8.5	2886	0.0071	0.4444	0.0031
18	7.9	2525	0.0030	0.4444	0.0013
19	7.9	2525	0.0151	0.4444	0.0067
20	8.6	2895	0.0030	0.4444	0.0013
21	7.9	2534	0.0013	0.4444	0.0006
22	7.9	2534	0.0065	0.4444	0.0029
23	11.2	3292	0.0037	0.4444	0.0017
24	10.6	3115	0.0031	0.4444	0.0014
25	11.9	3760	0.0186	0.4444	0.0083
26	11.9	3755	0.0031	0.4444	0.0014
27	11.0	3219	0.0093	0.4444	0.0041
28	10.3	3042	0.0077	0.4444	0.0034
29	11.9	3760	0.0111	0.4444	0.0050
30	11.9	3755	0.0019	0.4444	0.0008
31	11.0	3219	0.0056	0.4444	0.0025
32	10.3	3042	0.0046	0.4444	0.0021
33	7.3	2171	0.0047	0.4444	0.0021
34	6.6	1810	0.0020	0.4444	0.0009
35	6.6	1810	0.0101	0.4444	0.0045
36	7.3	2180	0.0020	0.4444	0.0009
37	6.7	1819	0.0009	0.4444	0.0004
38	6.7	1819	0.0043	0.4444	0.0019

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FIGURE A-46

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

SAR SCENARIO 1

OPERATIONAL REQUIREMENTS:		SELECTED CRAFT:	
MAXIMUM DURATION	12.0 HOURS	CATAMARAN	
RANGE FRACTION	0.90	DISPLACEMENT	94 TONS
VISIBILITY	VERY GOOD	DESIGN SPEED	40 KNOTS
AVERAGE SEA STATE	2.0	FUEL FRACTION	0.50

PERCENT OF SCENARIO COMPLETED	98.1
PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO	0.92

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE	7.2 HRS
FUEL CONSUMED IN AVERAGE SORTIE	1365.2 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
-----------	-----------------	-----------

ON SCENE:

BRD	0.40	BOARD
GAS	0.19	GENERAL ASSISTANCE
LSB	0.23	LAUNCH SMALL BOAT
OBA	0.63	ON BOARD ASSISTANCE
RBP	0.40	RETRIEVE BOARDING PARTY
RSB	0.23	RETRIEVE SMALL BOAT

REDUCED SPEED:

SDU	0.76	SEARCH FOR DISTRESSED UNIT: FOUND
SDU	0.10	SEARCH FOR DISTRESSED UNIT: FAILED
SLS	0.06	SLOW ESCORT
SPT	0.15	SLOW PATROL
TOW	0.38	TOW

CRUISE SPEED:

PAT	0.11	PATROL
TPE	0.19	TRANSPORT PEOPLE
TRA	0.29	TRANSIT

FLANK SPEED:

DSH	1.13	DASH
-----	------	------

FIGURE A-47

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

SAR SCENARIO 1

OPERATIONAL REQUIREMENTS:	SELECTED CRAFT:
MAXIMUM DURATION 12.0 HOURS	CATAMARAN
RANGE FRACTION 0.90	DISPLACEMENT 94 TONS
VISIBILITY GOOD	DESIGN SPEED 40 KNOTS
AVERAGE SEA STATE 4.0	FUEL FRACTION 0.50

PERCENT OF SCENARIO COMPLETED	89.3
PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO	0.67

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE	7.8 HRS
FUEL CONSUMED IN AVERAGE SORTIE	1620.2 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
BKD	0.28	BOARD
GAS	0.14	GENERAL ASSISTANCE
LSB	0.16	LAUNCH SMALL BOAT
OBA	0.44	ON BOARD ASSISTANCE
RBP	0.28	RETRIEVE BOARDING PARTY
RSB	0.16	RETRIEVE SMALL BOAT
REDUCED SPEED:		
SDU	0.53	SEARCH FOR DISTRESSED UNIT: FOUND
SDU	0.09	SEARCH FOR DISTRESSED UNIT: FAILED
SLS	0.04	SLOW ESCORT
SPT	0.07	SLOW PATROL
TOW	0.25	TOW
CRUISE SPEED:		
PAT	0.08	PATROL
TPE	0.15	TRANSPORT PEOPLE
TRA	0.24	TRANSIT
FLANK SPEED:		
USH	0.77	DASH

FIGURE A-48

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

SAR SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 12.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 2.0

SELECTED CRAFT:

WPB 95  
 DISPLACEMENT 100 TONS  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.27

PERCENT OF SCENARIO COMPLETED 66.9

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO 0.34

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE 8.0 HRS  
 FUEL CONSUMED IN AVERAGE SORTIE 528.2 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
BRC	0.16	BOARD
GAS	0.08	GENERAL ASSISTANCE
LSB	0.09	LAUNCH SMALL BOAT
OBA	0.26	ON BOARD ASSISTANCE
RBP	0.16	RETRIEVE BOARDING PARTY
RSB	0.09	RETRIEVE SMALL BOAT
REDUCED SPEED:		
SDU	0.31	SEARCH FOR DISTRESSED UNIT: FOUND
SES	0.04	SLOW ESCORT
SPT	0.02	SLOW PATROL
TOW	0.12	TOW
CRUISE SPEED:		
PAT	0.01	PATROL
TPE	0.09	TRANSPORT PEOPLE
TRA	0.09	TRANSIT
FLANK SPEED:		
DSH	0.34	DASH

FIGURE A-49

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

SAR SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 12.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 4.0

SELECTED CRAFT:

WPB 95  
 DISPLACEMENT 100 TONS  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.27

PERCENT OF SCENARIO COMPLETED 60.5

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO 0.06

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE 9.8 HRS  
 FUEL CONSUMED IN AVERAGE SORTIE 678.1 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
BRD	0.03	BOARD
GAS	0.01	GENERAL ASSISTANCE
LSB	0.02	LAUNCH SMALL BOAT
UBA	0.05	ON BOARD ASSISTANCE
REP	0.03	RETRIEVE BOARDING PARTY
RSB	0.02	RETRIEVE SMALL BOAT
REDUCED SPEED:		
SDU	0.06	SEARCH FOR DISTRESSED UNIT: FOUND
SES	0.01	SLOW ESCORT
SPT	0.00	SLOW PATROL
TOW	0.03	TOW
CRUISE SPEED:		
TPE	0.01	TRANSPORT PEOPLE
TRA	0.01	TRANSIT
FLANK SPEED:		
DSH	0.06	DASH

FIGURE A-50

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

SAR SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 12.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 2.0

SELECTED CRAFT:

PLANING CRAFT  
 DISPLACEMENT 96 TONS  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

PERCENT OF SCENARIO COMPLETED 98.1

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO 0.89

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE 7.1 HRS

FUEL CONSUMED IN AVERAGE SORTIE 2053.0 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
BRC	0.39	BOARD
GAS	0.19	GENERAL ASSISTANCE
LSB	0.22	LAUNCH SMALL BOAT
OBA	0.60	ON BOARD ASSISTANCE
RBP	0.39	RETRIEVE BOARDING PARTY
RSB	0.22	RETRIEVE SMALL BOAT
REDUCED SPEED:		
SDU	0.74	SEARCH FOR DISTRESSED UNIT: FOUND
SDU	0.10	SEARCH FOR DISTRESSED UNIT: FAILED
SES	0.06	SLOW ESCORT
SPT	0.15	SLOW PATROL
TOW	0.37	TOW
CRUISE SPEED:		
PAT	0.11	PATROL
TPE	0.18	TRANSPORT PEOPLE
TRA	0.28	TRANSIT
FLANK SPEED:		
DSH	1.09	DASH

FIGURE A-51

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

SAR SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 12.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 4.0

SELECTED CRAFT:

PLANING CRAFT  
 DISPLACEMENT 96 TONS  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

PERCENT OF SCENARIO COMPLETED 95.4

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO 0.55

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE 7.7 HRS

FUEL CONSUMED IN AVERAGE SORTIE 2068.6 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
BRD	0.25	BOARD
GAS	0.13	GENERAL ASSISTANCE
LSB	0.11	LAUNCH SMALL BOAT
OBA	0.36	ON BOARD ASSISTANCE
RBP	0.25	RETRIEVE BOARDING PARTY
RSB	0.11	RETRIEVE SMALL BOAT
REDUCED SPEED:		
SDU	0.45	SEARCH FOR DISTRESSED UNIT: FOUND
SDU	0.07	SEARCH FOR DISTRESSED UNIT: FAILED
SES	0.04	SLOW ESCORT
SPT	0.08	SLOW PATROL
TOW	0.22	TOW
CRUISE SPEED:		
PAT	0.06	PATROL
TPE	0.11	TRANSPORT PEOPLE
TRA	0.18	TRANSIT
FLANK SPEED:		
DSH	0.66	DASH

FIGURE A-52

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

SAR SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 12.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 2.0

SELECTED CRAFT:

SURFACE EFFECT SHIP  
 DISPLACEMENT 177 TONS  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

IMPORTANT TASKS COMPLETED IN 180 DAYS OF OPERATION

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
GAS	32	GENERAL ASSISTANCE
OBA	104	ON BOARD ASSISTANCE
REDUCED SPEED:		
SPT	25	SLOW PATROL
TOW	63	TOW
CRUISE SPEED:		
PAT	19	PATROL
TPE	32	TRANSPORT PEOPLE
FLANK SPEED: NO IMPORTANT TASKS SPECIFIED		

FIGURE A-53

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

SAR SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 12.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 4.0

SELECTED CRAFT:

SURFACE EFFECT SHIP  
 DISPLACEMENT 177 TONS  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

PERCENT OF SCENARIO COMPLETED 85.2

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO 0.39

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE 8.7 HRS  
 FUEL CONSUMED IN AVERAGE SORTIE 2818.6 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
BRD	0.16	BOARD
GAS	0.07	GENERAL ASSISTANCE
LSB	0.09	LAUNCH SMALL BOAT
OBA	0.24	ON BOARD ASSISTANCE
RBP	0.16	RETRIEVE BOARDING PARTY
RSB	0.09	RETRIEVE SMALL BOAT
REDUCED SPEED:		
SDU	0.29	SEARCH FOR DISTRESSED UNIT: FOUND
SDU	0.07	SEARCH FOR DISTRESSED UNIT: FAILED
SES	0.02	SLOW ESCORT
SPT	0.03	SLOW PATROL
TOW	0.14	TOW
CRUISE SPEED:		
PAT	0.04	PATROL
TPE	0.07	TRANSPORT PEOPLE
TRA	0.15	TRANSIT
FLANK SPEED:		
DSH	0.43	DASH

FIGURE A-54

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

SAR SCENARIO 1

<del>OPERATIONAL REQUIREMENTS:</del>	<del>SELECTED CRAFT:</del>
<del>MAXIMUM DURATION 12.0 HOURS</del>	<del>CATAMARAN</del>
<del>RANGE FRACTION 0.90</del>	<del>DISPLACEMENT 94 TONS</del>
<del>VISIBILITY VERY GOOD</del>	<del>DESIGN SPEED 40 KNOTS</del>
<del>AVERAGE SEA STATE 2.0</del>	<del>FUEL FRACTION 0.50</del>

~~IMPORTANT TASKS COMPLETED IN 180 DAYS OF OPERATION~~

<del>TASK CODE</del>	<del>TIMES COMPLETED</del>	<del>TASK NAME</del>
<del>ON SCENE:</del>		
<del>GAS</del>	<del>54</del>	<del>GENERAL ASSISTANCE</del>
<del>UBA</del>	<del>113</del>	<del>ON BOARD ASSISTANCE</del>
<del>REDUCED SPEED:</del>		
<del>SPT</del>	<del>27</del>	<del>SLOW PATROL</del>
<del>TOW</del>	<del>68</del>	<del>TOW</del>
<del>CRUISE SPEED:</del>		
<del>PAI</del>	<del>20</del>	<del>PATROL</del>
<del>TPE</del>	<del>34</del>	<del>TRANSPORT PEOPLE</del>
<del>FLANK SPEED:</del>		
<del>NO IMPORTANT TASKS SPECIFIED</del>		

FIGURE A-55

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

SAR SCENARIO 1

<del>OPERATIONAL REQUIREMENTS:</del>	<del>SELECTED CRAFT:</del>
<del>MAXIMUM DURATION 12.0 HOURS</del>	<del>CATAMARAN</del>
<del>RANGE FRACTION 0.90</del>	<del>DISPLACEMENT 94 TONS</del>
<del>VISIBILITY GOOD</del>	<del>DESIGN SPEED 40 KNOTS</del>
<del>AVERAGE SEA STATE 4.0</del>	<del>FUEL FRACTION 0.50</del>

~~IMPORTANT TASKS COMPLETED IN 100 DAYS OF OPERATION~~

<del>TASK CODE</del>	<del>TIMES COMPLETED</del>	<del>TASK NAME</del>
<del>ON SCENE:</del>		
<del>GAS</del>	<del>25</del>	<del>GENERAL ASSISTANCE</del>
<del>OBA</del>	<del>75</del>	<del>ON BOARD ASSISTANCE</del>
<del>REDUCED SPEED:</del>		
<del>SPT</del>	<del>12</del>	<del>SLOW PATROL</del>
<del>TOW</del>	<del>44</del>	<del>TOW</del>
<del>CRUISE SPEED:</del>		
<del>PAT</del>	<del>14</del>	<del>PATROL</del>
<del>TPE</del>	<del>20</del>	<del>TRANSPORT PEOPLE</del>
<del>FLANK SPEED:</del>		
<del>NO IMPORTANT TASKS SPECIFIED</del>		

FIGURE A-56

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

SAR SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 12.0 HOURS  
RANGE FRACTION 0.90  
VISIBILITY VERY GOOD  
AVERAGE SEA STATE 2.0

SELECTED CRAFT:

WPB 95  
DISPLACEMENT 100 TONS  
DESIGN SPEED 20 KNOTS  
FUEL FRACTION 0.27

IMPORTANT TASKS COMPLETED IN 180 DAYS OF OPERATION

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
GAS	15	GENERAL ASSISTANCE
OBA	46	ON BOARD ASSISTANCE
REDUCED SPEED:		
SPT	3	SLOW PATROL
TCW	22	TOW
CRUISE SPEED:		
PAT	2	PATROL
TPE	16	TRANSPORT PEOPLE
FLANK SPEED:		
NO IMPORTANT TASKS SPECIFIED		

FIGURE A-57

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

SAR SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 12.0 HOURS  
RANGE FRACTION 0.90  
VISIBILITY GOOD  
AVERAGE SEA STATE 4.0

SELECTED CRAFT:

WPB 95  
DISPLACEMENT 100 TONS  
DESIGN SPEED 20 KNOTS  
FUEL FRACTION 0.27

IMPORTANT TASKS COMPLETED IN 180 DAYS OF OPERATION

TASK CODE	TIMES COMPLETED	TASK NAME
--------------	--------------------	--------------

ON SCENE:

GAS	2	GENERAL ASSISTANCE
OBA	8	ON BOARD ASSISTANCE

REDUCED SPEED:

SPT	1	SLOW PATROL
TOW	5	TOW

CRUISE SPEED:

PAT	0	PATROL
TPE	2	TRANSPORT PEOPLE

FLANK SPEED:

NO IMPORTANT TASKS SPECIFIED

FIGURE A-58

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

SAR SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 12.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 2.0

SELECTED CRAFT:

PLANING CRAFT  
 DISPLACEMENT 96 TONS  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

IMPORTANT TASKS COMPLETED IN 180 DAYS OF OPERATION

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
GAS	34	GENERAL ASSISTANCE
OBA	109	ON BOARD ASSISTANCE
REDUCED SPEED:		
SPT	26	SLOW PATROL
TOW	66	TOW
CRUISE SPEED:		
PAT	20	PATROL
TPE	33	TRANSPORT PEOPLE
FLANK SPEED: NO IMPORTANT TASKS SPECIFIED		

FIGURE A-59

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

SAR SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 12.0 HOURS  
RANGE FRACTION 0.90  
VISIBILITY GOOD  
AVERAGE SEA STATE 4.0

SELECTED CRAFT:

PLANING CRAFT  
DISPLACEMENT 96 TONS  
DESIGN SPEED 40 KNOTS  
FUEL FRACTION 0.50

IMPORTANT TASKS COMPLETED IN 180 DAYS OF OPERATION

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
GAS	23	GENERAL ASSISTANCE
OBA	64	ON BOARD ASSISTANCE
REDUCED SPEED:		
SPT	15	SLOW PATROL
TOW	40	TOW
CRUISE SPEED:		
PAT	11	PATROL
TPE	21	TRANSPORT PEOPLE
FLANK SPEED:		
NO IMPORTANT TASKS SPECIFIED		

FIGURE A-60

AD-A051 393

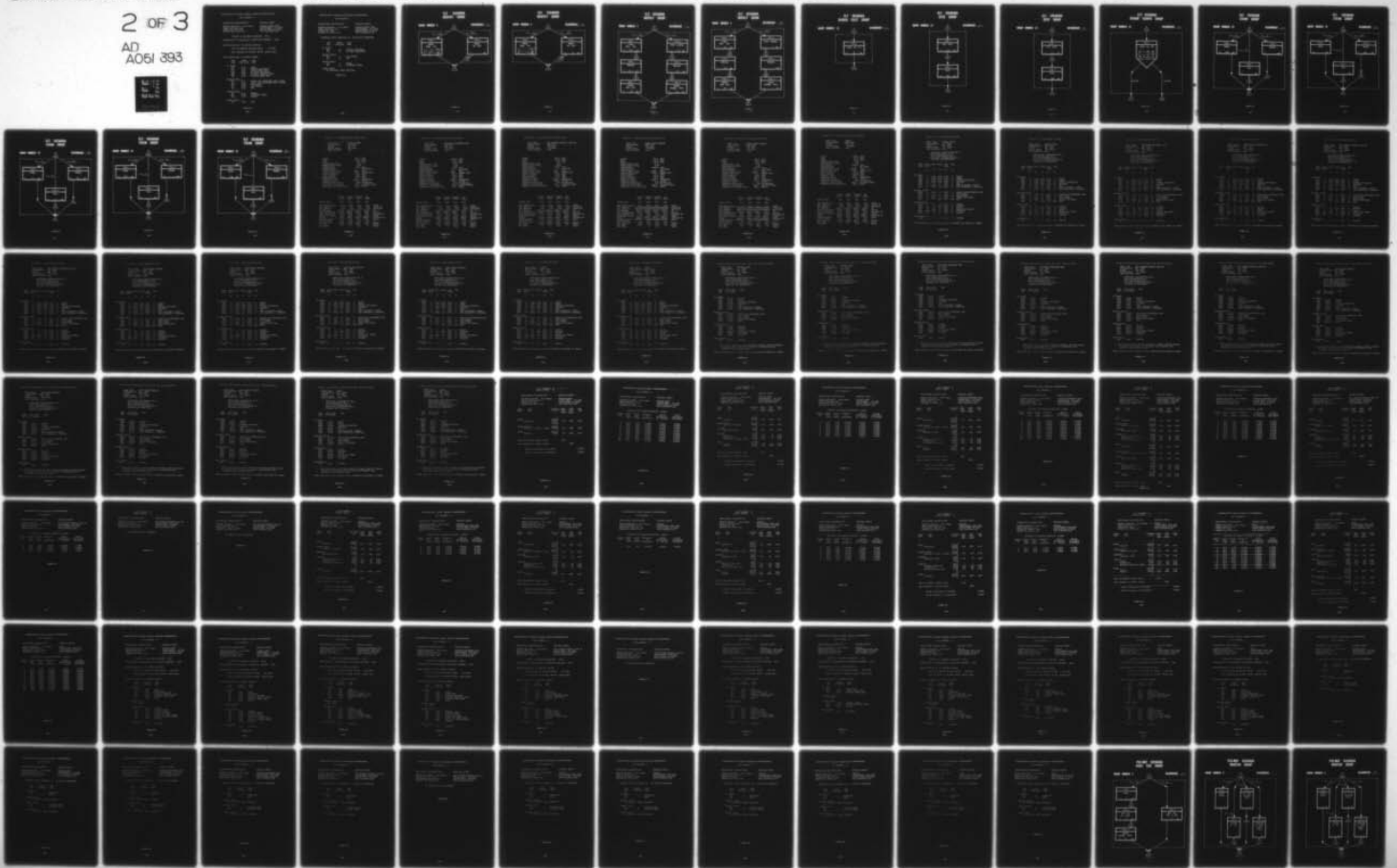
COAST GUARD RESEARCH AND DEVELOPMENT CENTER GROTON CONN F/G 13/10  
CUTTER RESOURCE EFFECTIVENESS EVALUATION MODEL. VOLUME III. UTI--ETC(U)  
JUN 77 A PASSERA, D S PRERAU, C W PRITCHETT  
CGR/DC-17/77 USCG-D-47-77

NL

UNCLASSIFIED

2 OF 3

AD  
A051 393



\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

SAR SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 12.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 2.0

SELECTED CRAFT:

SURFACE EFFECT SHIP  
 DISPLACEMENT 177 TONS  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

PERCENT OF SCENARIO COMPLETED 98.1

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO 0.85

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE 7.3 HRS

FUEL CONSUMED IN AVERAGE SORTIE 2424.0 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
BRD	0.37	BOARD
GAS	0.18	GENERAL ASSISTANCE
LSB	0.21	LAUNCH SMALL BOAT
OBA	0.58	ON BOARD ASSISTANCE
RBP	0.37	RETRIEVE BOARDING PARTY
RSB	0.21	RETRIEVE SMALL BOAT
REDUCED SPEED:		
SDU	0.70	SEARCH FOR DISTRESSED UNIT: FOUND
SLU	0.10	SEARCH FOR DISTRESSED UNIT: FAILED
SES	0.06	SLOW ESCORT
SPT	0.14	SLOW PATROL
TOW	0.35	TOW
CRUISE SPEED:		
PAT	0.10	PATROL
TPE	0.18	TRANSPORT PEOPLE
TRA	0.27	TRANSIT
FLANK SPEED:		
DSH	1.05	DASH

FIGURE A-61

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

SAR SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 12.0 HOURS  
RANGE FRACTION 0.90  
VISIBILITY GOOD  
AVERAGE SEA STATE 4.0

SELECTED CRAFT:

SURFACE EFFECT SHIP  
DISPLACEMENT 177 TONS  
DESIGN SPEED 40 KNOTS  
FUEL FRACTION 0.50

IMPORTANT TASKS COMPLETED IN 180 DAYS OF OPERATION

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
GAS	13	GENERAL ASSISTANCE
OBA	44	ON BOARD ASSISTANCE
REDUCED SPEED:		
SPT	5	SLOW PATROL
TOW	25	TOW
CRUISE SPEED:		
PAT	7	PATROL
TPE	13	TRANSPORT PEOPLE
FLANK SPEED:		
NO IMPORTANT TASKS SPECIFIED		

FIGURE A-62

# ELT SCENARIO IDENTIFY GROUP

GROUP NUMBER 4

OCCURRENCE 1

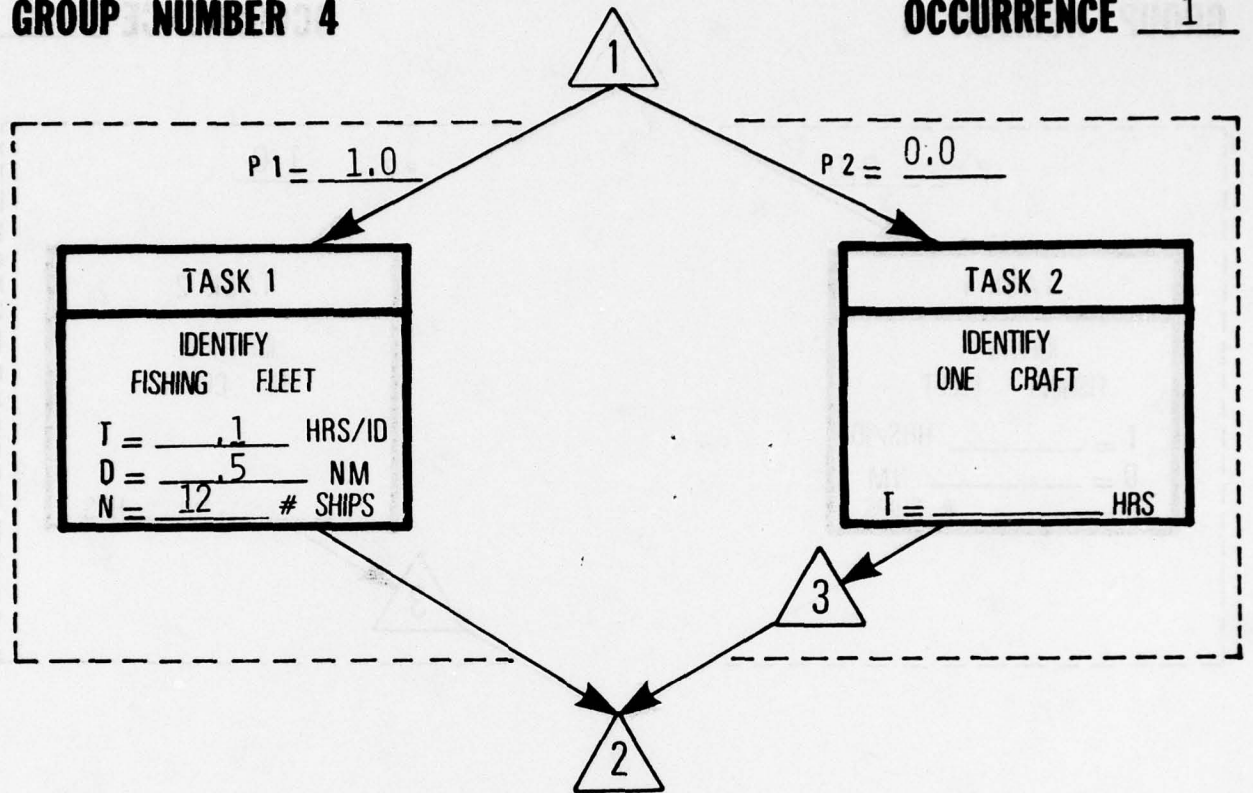


FIGURE B-1

B-1

# ELT SCENARIO IDENTIFY GROUP

**GROUP NUMBER 4**

**OCCURRENCE 2**

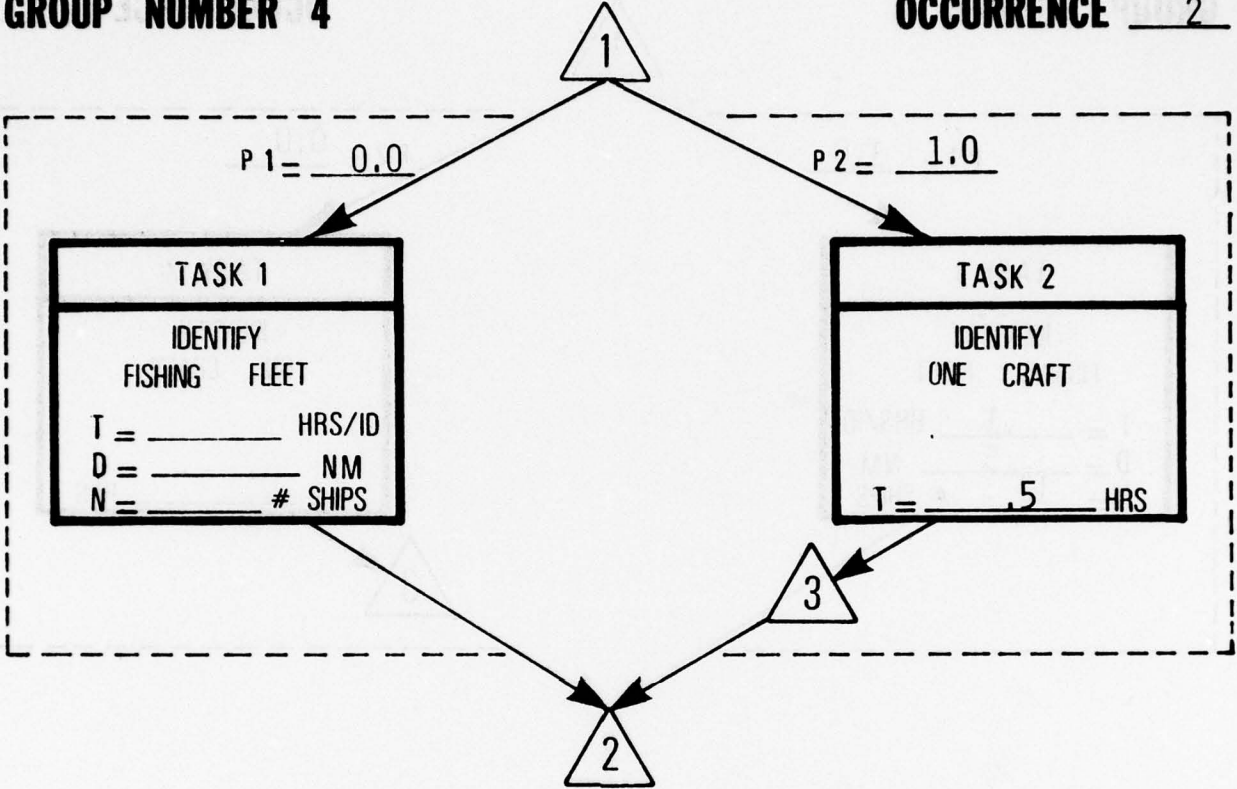


FIGURE B-2

# ELT SCENARIO INSPECT GROUP

GROUP NUMBER 5

OCCURRENCE 1

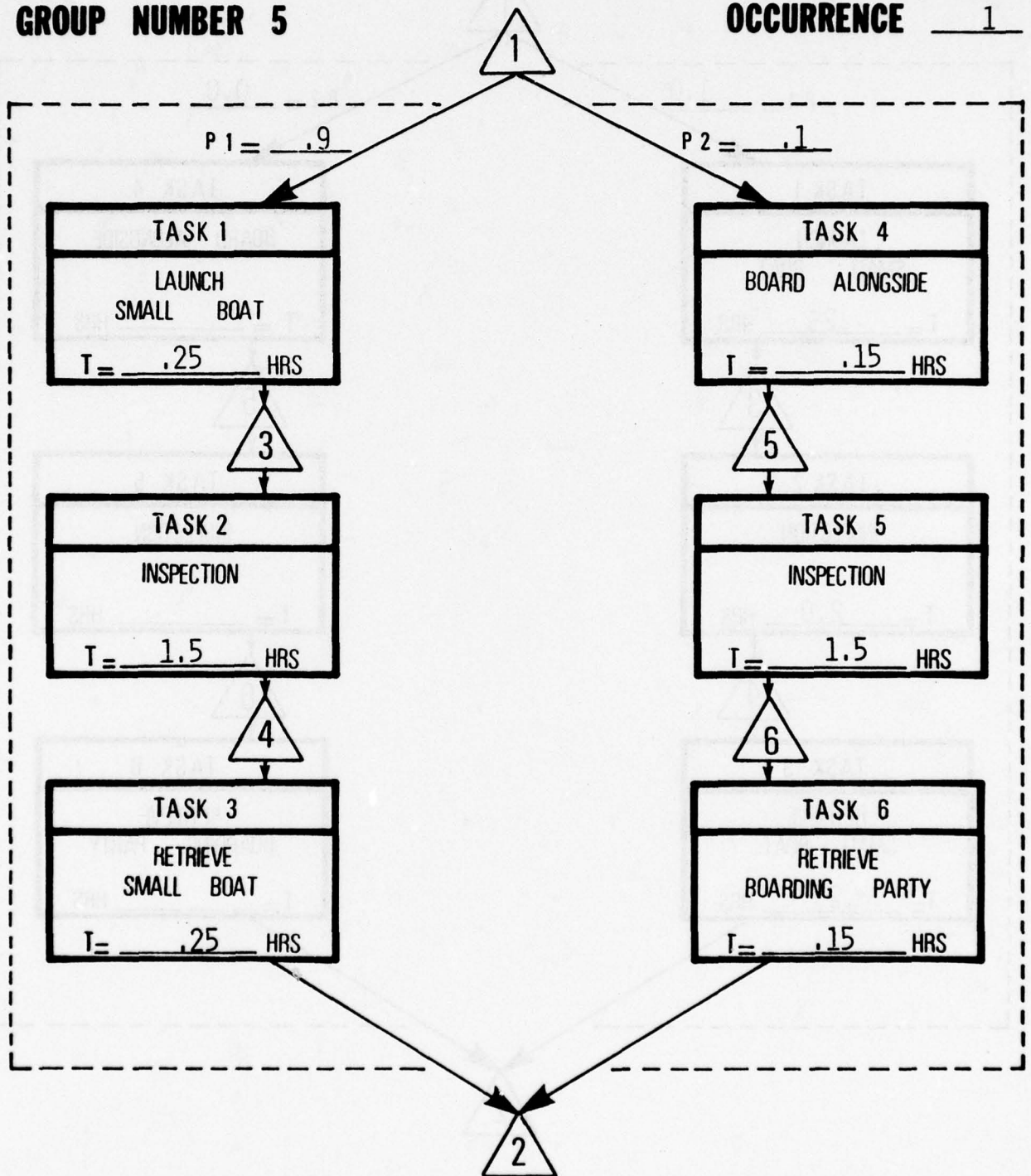


FIGURE B-3  
B-3

# ELT SCENARIO INSPECT GROUP

GROUP NUMBER 5

OCCURRENCE 02

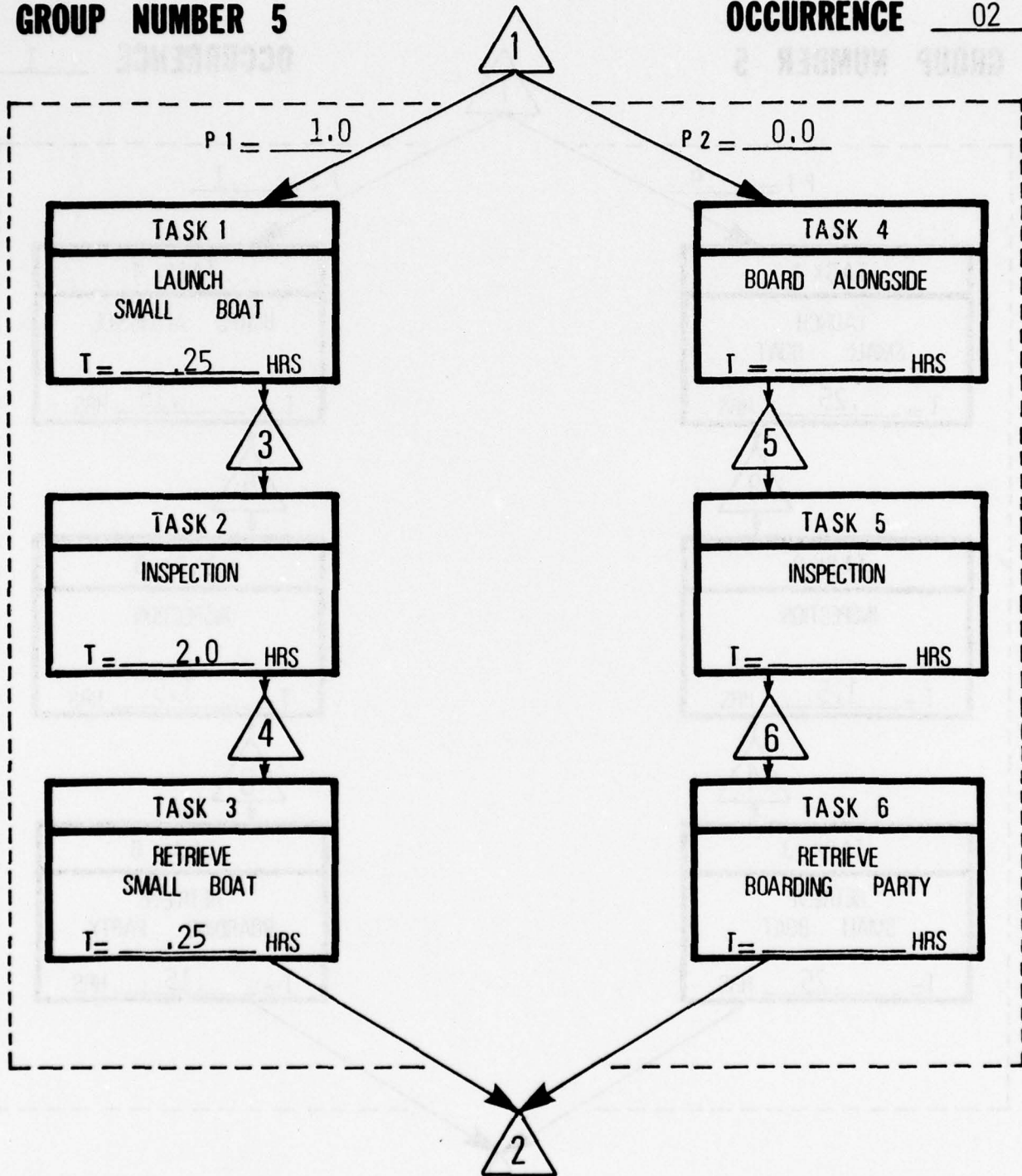


FIGURE B-4  
B-4

# ELT SCENARIO SEARCH FLEET GROUP

GROUP NUMBER 11

OCCURRENCE 1

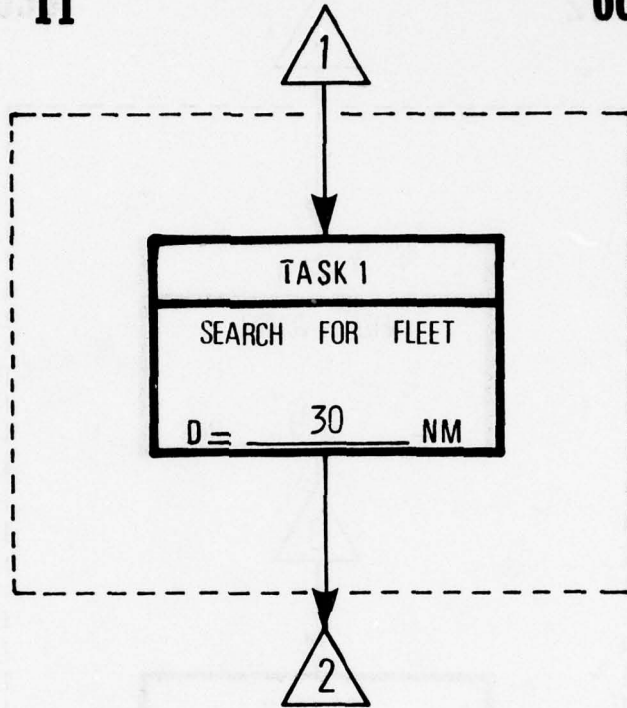


FIGURE B-5

# ELT SCENARIO SEIZE GROUP

GROUP NUMBER 12

OCCURRENCE 1

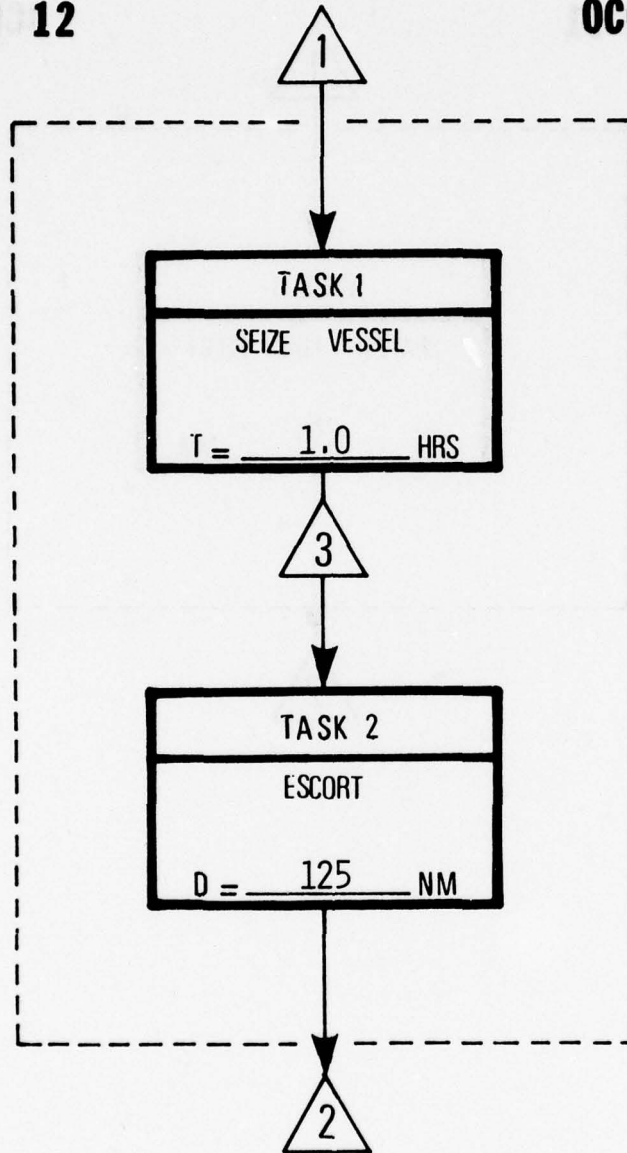


FIGURE B-6

# ELT SCENARIO SEIZE GROUP

GROUP NUMBER 12

OCCURRENCE 2

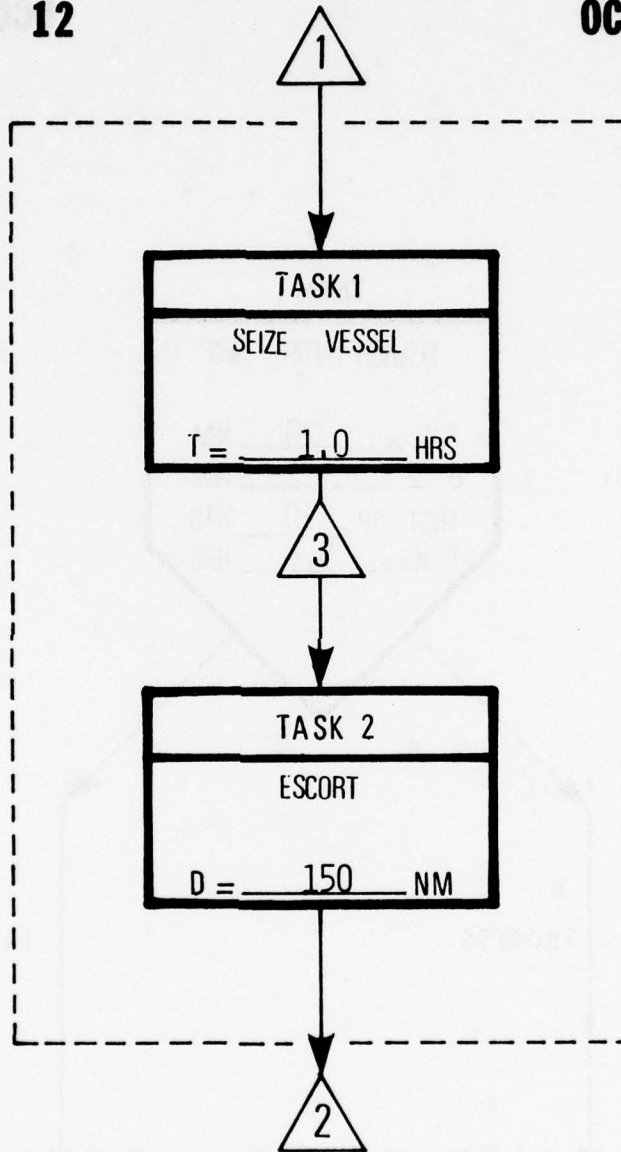


FIGURE B-7

# ELT SCENARIO SENSOR SEARCH GROUP

GROUP NUMBER 13

OCCURRENCE 1

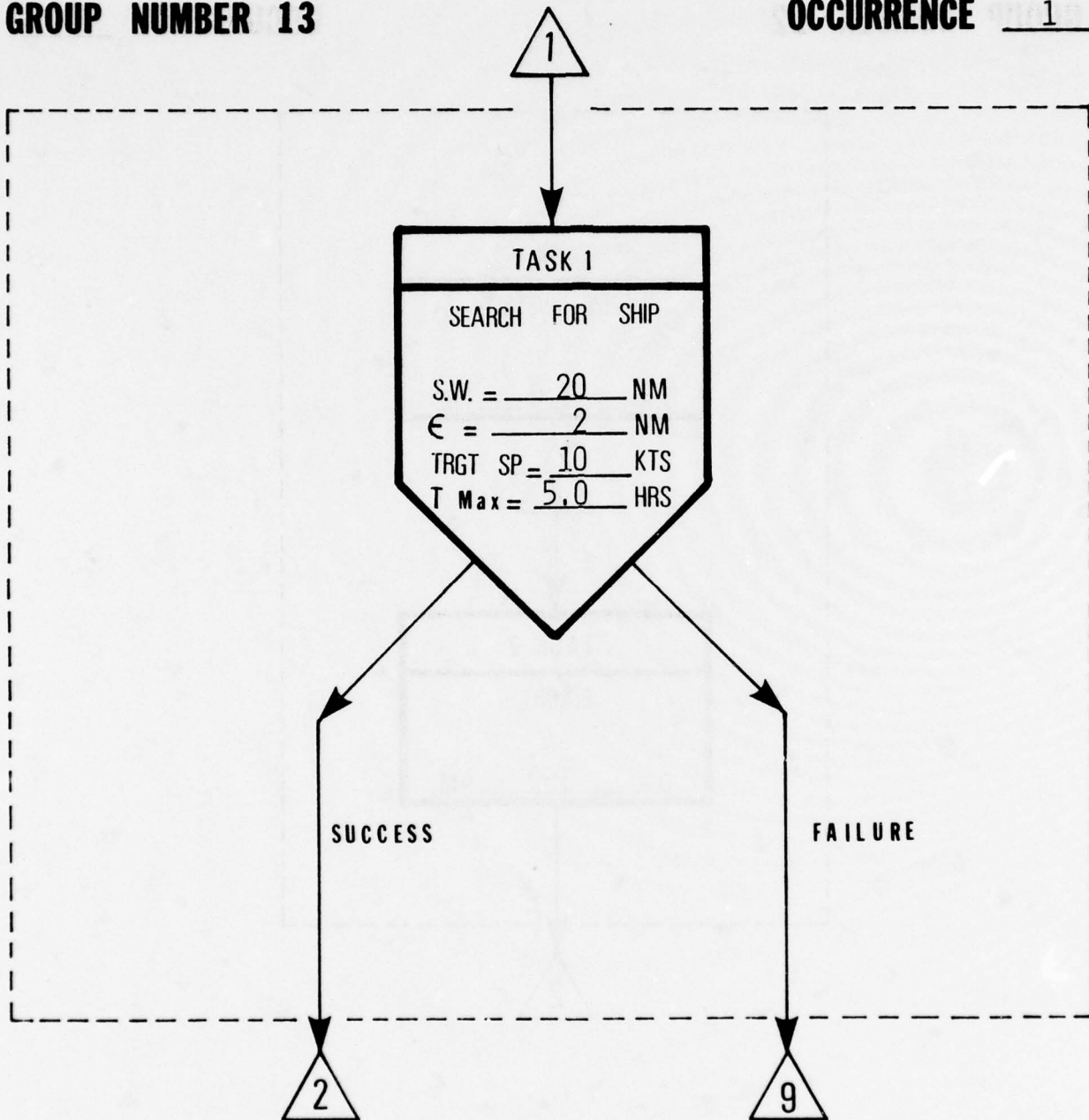


FIGURE B-8

# ELT SCENARIO STEAM GROUP

GROUP NUMBER 15

OCCURRENCE 1

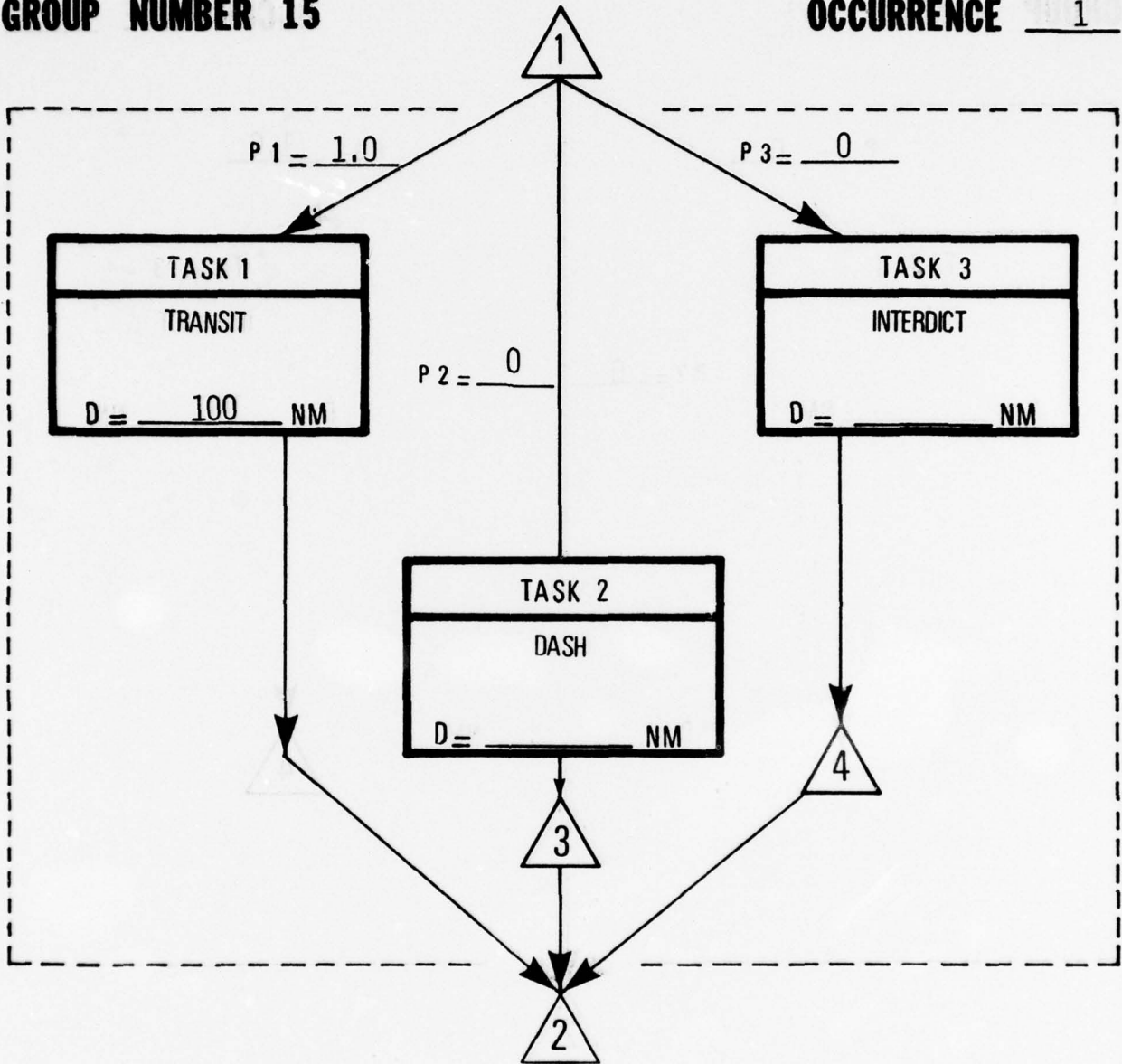


FIGURE B-9

# ELT SCENARIO STEAM GROUP

GROUP NUMBER 15

OCCURRENCE 2

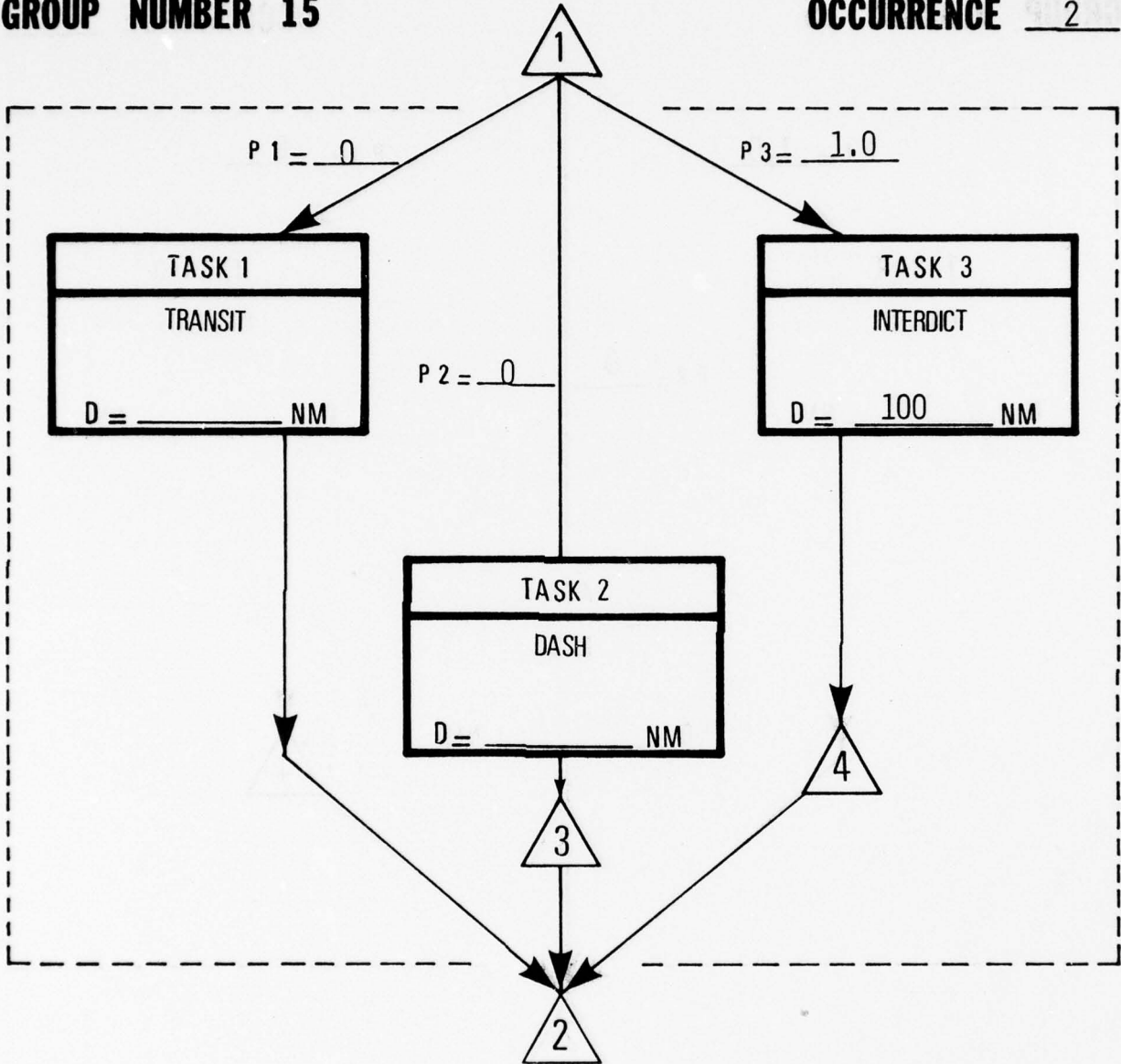


FIGURE B-10

# ELT SCENARIO STEAM GROUP

GROUP NUMBER 15

OCCURRENCE 03

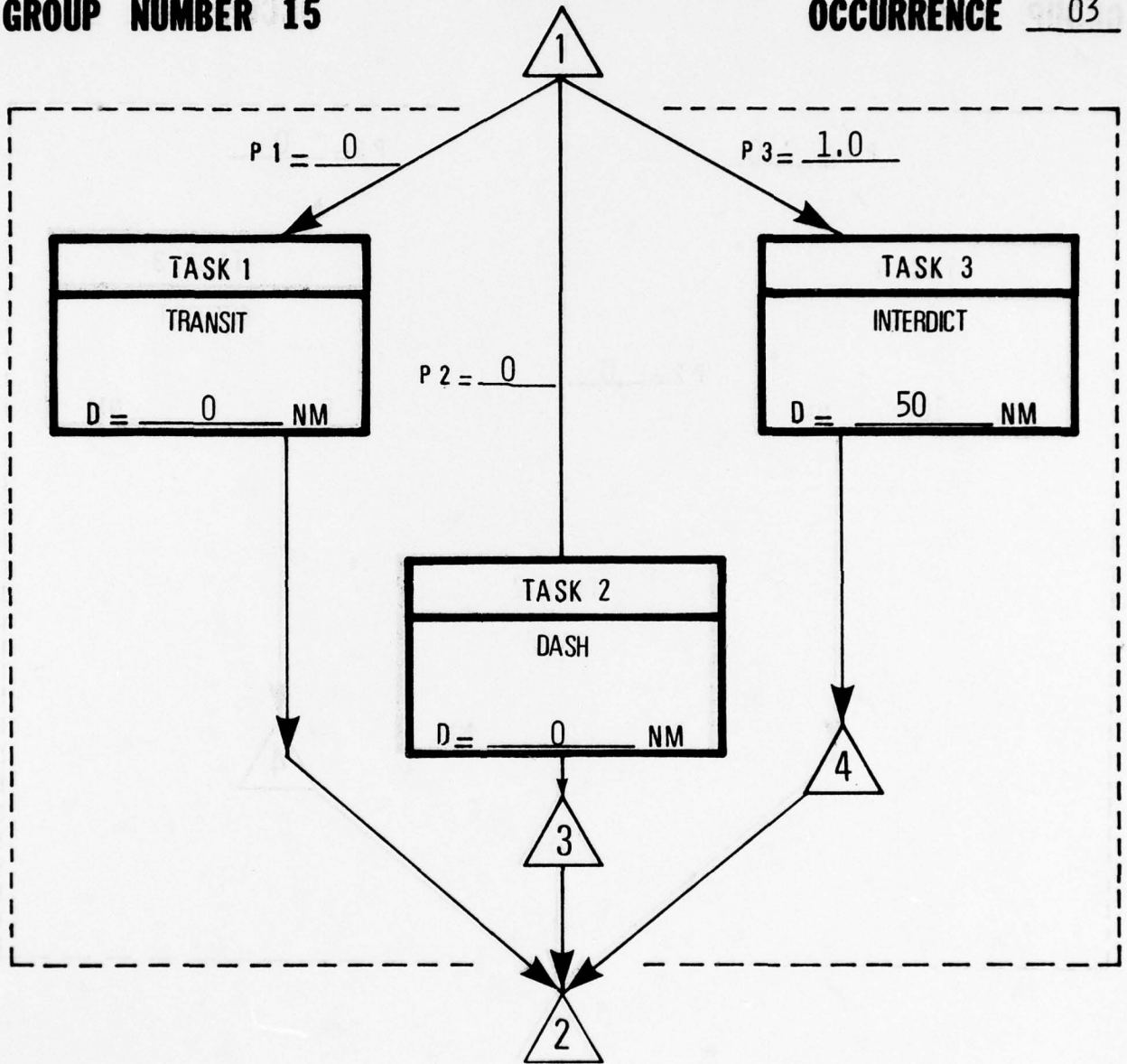


FIGURE B-11

# ELT SCENARIO STEAM GROUP

GROUP NUMBER 15

OCCURRENCE 04

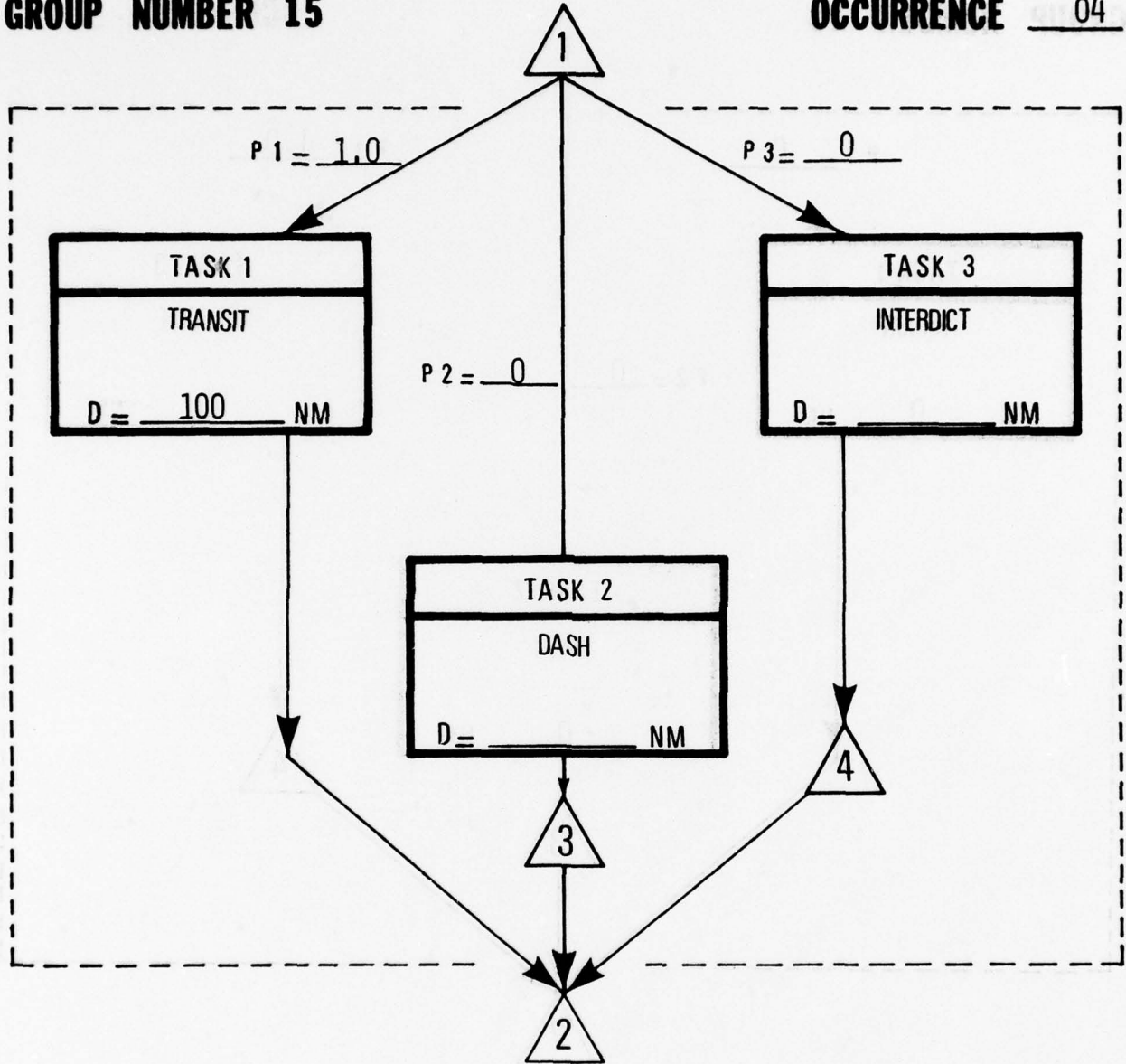


FIGURE B-12

# ELT SCENARIO STEAM GROUP

GROUP NUMBER 15

OCCURRENCE 05

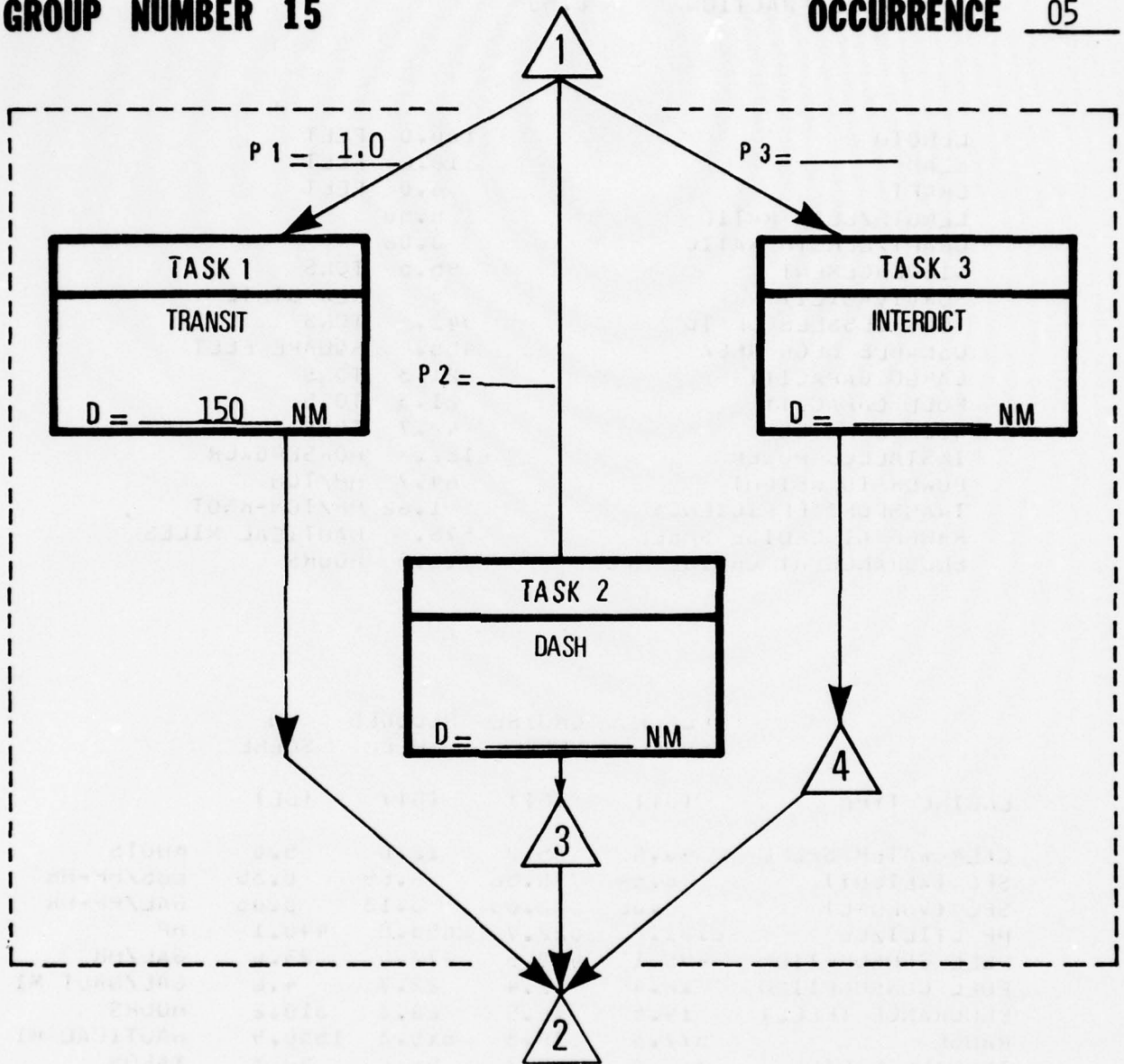


FIGURE B-13

# C R A F T C H A R A C T E R I S T I C S

CRAFT TYPE	FLANING CRAFT
DISPLACEMENT	96 TONS
LENGTH	100 FEET
DESIGN SPEED	40 KNOTS
FUEL FRACTION	0.50

LENGTH	100.0	FEET
BEAM	18.2	FEET
DRAFT	6.0	FEET
LENGTH/BEAM RATIO	5.50	
DRAFT/LENGTH RATIO	0.06	
DISPLACEMENT	95.5	TONS
SURVIVABILITY	5	SEA STATE
TOWS VESSELS UP TO	941.	TONS
USEABLE DECK AREA	455.	SQUARE FEET
CARGO CAPACITY	21.3	TONS
FUEL CAPACITY	21.3	TONS
USEFUL PAYLOAD	42.7	TONS
INSTALLED POWER	6182.	HORSEPOWER
POWER TO WEIGHT	64.7	HP/TON
TRANSPORT EFFICIENCY	1.62	HP/TON-KNOT
RANGE AT CRUISE SPEED	578.	NAUTICAL MILES
ENDURANCE AT CRUISE SPEED	16.5	HOURS

	FLANK SPEED	CRUISE SPEED	REDUCED SPEED	ON SCENE	
ENGINE TYPE	(GT)	(GT)	(GT)	(DE)	
CALM WATER SPEED	40.0	35.0	12.0	5.0	KNOTS
SFC (WEIGHT)	0.54	0.50	0.29	0.35	LBS/HP-HR
SFC (VOLUME)	0.08	0.09	0.13	0.05	GAL/HP-HR
HP UTILIZED	6181.8	5022.7	2053.8	440.1	HP
FUEL CONSUMPTION	475.1	432.5	272.0	23.0	GAL/HR
FUEL CONSUMPTION	12.4	12.4	22.7	4.6	GAL/NAUT MI
ENDURANCE (FUEL)	14.4	16.5	26.3	310.2	HOURS
RANGE	577.3	578.3	315.3	1550.9	NAUTICAL MI
TURNING RADIUS	322.6	282.3	90.8	40.3	YARDS
CRAFT MOTION	1.4	1.1	0.5	0.4	G
AVG FUEL RATE	407.1	364.9	249.9	23.0	GAL/HR
AVG SPEED	28.1	24.0	11.0	5.0	KNOTS
TOW SPEED	-	-	0.2	-	KNOTS

FIGURE B-14

## C R A F T C H A R A C T E R I S T I C S

CRAFT TYPE	HYDROFOIL-SUBMERGED FOIL
DISPLACEMENT	132 TONS
LENGTH	100 FEET
DESIGN SPEED	50 KNOTS
FUEL FRACTION	0.50

LENGTH	100.0 FEET
BEAM	25.0 FEET
DRAFT	20.0 FEET
LENGTH/BEAM RATIO	4.00
DRAFT/LENGTH RATIO	0.20
DISPLACEMENT	131.6 TONS
SURVIVABILITY	5 SEA STATE
TOWS VESSELS UP TO	1442. TONS
USEABLE DECK AREA	625. SQUARE FEET
CARGO CAPACITY	20.7 TONS
FUEL CAPACITY	20.7 TONS
USEFUL PAYLOAD	41.5 TONS
INSTALLED POWER	8142. HORSEPOWER
POWER TO WEIGHT	61.9 HP/TON
TRANSPORT EFFICIENCY	1.24 HP/TON-KNOT
RANGE AT CRUISE SPEED	613. NAUTICAL MILES
ENDURANCE AT CRUISE SPEED	14.4 HOURS

	FLANK SPEED (GT)	CRUISE SPEED (GT)	REDUCED SPEED (GT)	ON SCENE (DE)	
ENGINE TYPE					
CALM WATER SPEED	50.0	42.5	12.0	5.0	KNOTS
SFC (WEIGHT)	0.40	0.50	0.83	0.35	LBS/HP-HR
SFC (VOLUME)	0.07	0.09	0.12	0.05	GAL/HP-HR
HP UTILIZED	8141.8	6106.3	1693.5	773.5	HP
FUEL CONSUMPTION	533.9	431.7	210.6	40.5	GAL/HR
FUEL CONSUMPTION	11.7	11.3	17.6	8.1	GAL/NAUT MI
ENDURANCE (FULL)	11.9	14.4	33.0	171.6	HOURS
RANGE	594.9	612.9	395.6	857.9	NAUTICAL MI
TURNING RADIUS	201.6	171.4	48.4	20.2	YARDS
CRAFT MOTION	0.1	0.1	0.5	0.3	G
AVG FUEL RATE	430.8	386.5	195.9	40.5	GAL/HR
AVG SPEED	37.5	32.4	11.7	5.0	KNOTS
TOW SPEED	-	-	5.9	-	KNOTS

FIGURE B-15

## C R A F T C H A R A C T E R I S T I C S

CRAFT TYPE	AIR CUSHION VEHICLE- LOW P/L
DISPLACEMENT	200 TONS
LENGTH	135 FEET
DESIGN SPEED	60 KNOTS
FUEL FRACTION	0.50

LENGTH	135.0	FEET
BEAM	67.5	FEET
DRAFT	1.3	FEET
LENGTH/BEAM RATIO	2.00	
DRAFT/LENGTH RATIO	0.01	
DISPLACEMENT	200.0	TONS
SURVIVABILITY	5	SEA STATE
TOWS VESSELS UP TO	504.	TONS
USEABLE DECK AREA	4556.	SQUARE FEET
CARGO CAPACITY	34.0	TONS
FUEL CAPACITY	34.0	TONS
USEFUL PAYLOAD	68.0	TONS
INSTALLED POWER	25919.	HORSEPOWER
POWER TO WEIGHT	129.6	HP/TON
TRANSPORT EFFICIENCY	2.16	HP/TON-KNOT
RANGE AT CRUISE SPEED	455.	NAUTICAL MILES
ENDURANCE AT CRUISE SPEED	8.9	HOURS

	FLANK SPEED	CRUISE SPEED	REDUCED SPEED	ON SCENE	
ENGINE TYPE	(GT)	(GT)	(GT)	(GT)	
CALM WATER SPEED	60.0	51.0	12.0	5.0	KNOTS
SFC (WEIGHT)	0.42	0.47	0.59	0.87	LBS/HP-HR
SFC (VOLUME)	0.06	0.07	0.09	0.13	GAL/HP-HR
HP UTILIZED	25918.8	18143.2	5699.7	1499.9	HP
FUEL CONSUMPTION	1629.1	1277.2	498.7	196.1	GAL/HR
FUEL CONSUMPTION	27.2	25.0	41.6	39.2	GAL/NAUT MI
ENDURANCE (FUEL)	7.0	8.9	22.8	58.1	HOURS
RANGE	419.5	454.8	274.1	290.4	NAUTICAL MI
TURNING RADIUS	967.7	822.6	193.5	80.6	YARDS
CRAFT MOTION	0.1	0.1	0.1	0.1	G
AVG FUEL RATE	1417.9	1163.7	507.4	196.1	GAL/HR
AVG SPEED	41.4	37.3	11.5	4.9	KNOTS
TOW SPEED	-	-	5.6	-	KNOTS

FIGURE B-16

# C R A F T C H A R A C T E R I S T I C S

CRAFT TYPE	COAST GUARD WMEC210
DISPLACEMENT	1000 TONS
LENGTH	210 FEET
DESIGN SPEED	17 KNOTS
FUEL FRACTION	0.70

LENGTH	210.0	FEET
BEAM	34.0	FEET
DRAFT	10.0	FEET
LENGTH/BEAM RATIO	6.17	
DRAFT/LENGTH RATIO	0.05	
DISPLACEMENT	1000.0	TONS
SURVIVABILITY	7	SEA STATE
TOWS VESSELS UP TO	10000.	TONS
USEABLE DECK AREA	1500.	SQUARE FEET
CARGO CAPACITY	10.0	TONS
FUEL CAPACITY	23.0	TONS
USEFUL PAYLOAD	33.0	TONS
INSTALLED POWER	5000.	HORSEPOWER
POWER TO WEIGHT	5.0	HP/TON
TRANSPORT EFFICIENCY	0.29	HP/TON-KNOT
RANGE AT CRUISE SPEED	6560.	NAUTICAL MILES
ENDURANCE AT CRUISE SPEED	470.0	HOURS

	FLANK SPEED	CRUISE SPEED	REDUCED SPEED	ON SCENE	
ENGINE TYPE	(DE)	(DE)	(DE)	(DE)	
CALM WATER SPEED	16.0	14.0	12.0	5.0	KNOTS
SFC (WEIGHT)	*****				LBS/HP-HR
SFC (VOLUME)	*****				GAL/HP-HR
HP UTILIZED	5000.0	3000.0	2000.0	500.0	HP
FUEL CONSUMPTION	120.0	100.0	80.0	47.0	GAL/HR
FUEL CONSUMPTION	7.5	7.2	6.7	9.4	GAL/NAUT MI
ENDURANCE (FUEL)	391.0	470.0	567.0	1000.0	HOURS
RANGE	6266.0	6580.0	7000.0	5000.0	NAUTICAL MI
TURNING RADIUS	*****	150.5	*****		YARDS
CRAFT MOTION	0.0	0.0	0.0	0.0	G
AVG FUEL RATE	115.6	99.9	79.2	47.0	GAL/HR
AVG SPEED	12.3	5.8	11.3	5.0	KNOTS
TOW SPEED	-	-	5.1	-	KNOTS

FIGURE B-17

CRAFT CHARACTERISTICS

CRAFT TYPE COAST GUARD WMEC270  
 DISPLACEMENT 1780 TONS  
 LENGTH 270 FEET  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.91

LENGTH 270.0 FEET  
 BEAM 38.0 FEET  
 DRAFT 14.0 FEET  
 LENGTH/BEAM RATIO 7.10  
 DRAFT/LENGTH RATIO 0.05  
 DISPLACEMENT 1780.0 TONS  
 SURVIVABILITY 2 SEA STATE  
 TOWS VESSELS UP TO 20000. TONS  
 USEABLE DECK AREA 2500. SQUARE FEET  
 CARGO CAPACITY 30.0 TONS  
 FUEL CAPACITY 315.0 TONS  
 USEFUL PAYLOAD 345.0 TONS  
 INSTALLED POWER 7000. HORSEPOWER  
 POWER TO WEIGHT 3.9 HP/TON  
 TRANSPORT EFFICIENCY 0.20 HP/TON-KNOT  
 RANGE AT CRUISE SPEED 3000. NAUTICAL MILES  
 ENDURANCE AT CRUISE SPEED 533.0 HOURS

	FLANK SPEED (DL)	CRUISE SPEED (DL)	REDUCED SPEED (DL)	ON SCENE (DE)	
ENGINE TYPE	(DL)	(DL)	(DL)	(DE)	
CALM WATER SPEED	19.5	15.0	12.0	5.0	KNOTS
SFC (WEIGHT)	*****	*****	*****	*****	LBS/HP-HR
SFC (VOLUME)	*****	*****	*****	*****	GAL/HP-HR
HP UTILIZED	7000.0	3000.0	1750.0	700.0	HP
FUEL CONSUMPTION	380.0	153.0	100.0	62.9	GAL/HR
FUEL CONSUMPTION	19.5	10.2	8.4	12.5	GAL/NAUT MI
ENDURANCE (FUEL)	215.0	533.0	316.0	1300.0	HOURS
RANGE	4200.0	6000.0	9800.0	6500.0	NAUTICAL MI
TURNING RADIUS	*****	161.3	*****	*****	YARDS
CRAFT MOTION	0.0	0.0	0.0	0.0	G
AVG FUEL RATE	351.7	152.2	99.0	62.9	GAL/HR
AVG SPEED	14.0	6.7	11.6	5.0	KNOTS
TOW SPEED	-	-	5.1	-	KNOTS

FIGURE B-18

# CRAFT CHARACTERISTICS

CRAFT TYPE	SWATH
DISPLACEMENT	2000 TONS
LENGTH	250 FEET
DESIGN SPEED	20 KNOTS
FUEL FRACTION	0.50

LENGTH	250.0	FEET
BEAM	83.3	FEET
DRAFT	25.0	FEET
LENGTH/BEAM RATIO	3.00	
DRAFT/LENGTH RATIO	0.10	
DISPLACEMENT	2000.0	TONS
SURVIVABILITY	7	SEA STATE
TOWS VESSELS UP TO	27141.	TONS
USABLE DECK AREA	11458.	SQUARE FEET
CARGO CAPACITY	292.3	TONS
FUEL CAPACITY	292.3	TONS
USEFUL PAYLOAD	584.5	TONS
INSTALLED POWER	8800.	HORSEPOWER
POWER TO WEIGHT	4.4	HP/TON
TRANSPORT EFFICIENCY	0.22	HP/TON-KNOT
RANGE AT CRUISE SPEED	3604.	NAUTICAL MILES
ENDURANCE AT CRUISE SPEED	300.3	HOURS

	FLANK SPEED	CRUISE SPEED	REDUCED SPEED	ON SCENE	
ENGINE TYPE	(GT)	(GT)	(GT)	(GT)	
CALM WATER SPEED	20.0	12.0	12.0	5.0	KNOTS
SFC (WEIGHT)	0.46	0.67	0.67	0.98	LBS/HP-HR
SFC (VOLUME)	0.07	0.10	0.10	0.15	GAL/HP-HR
HP UTILIZED	2800.0	3234.0	3234.0	953.3	HP
FUEL CONSUMPTION	623.2	326.0	326.0	139.7	GAL/HR
FUEL CONSUMPTION	31.4	27.2	27.2	27.9	GAL/NAUT MI
ENDURANCE (FUEL)	105.8	300.3	300.3	700.6	HOURS
RANGE	3117.0	3604.1	3604.1	3503.1	NAUTICAL MI
TURNING RADIUS	215.1	129.0	129.0	53.0	YARDS
CRAFT MOTION	0.1	0.1	0.1	0.1	G
AVG FUEL RATE	602.1	330.1	330.1	139.7	GAL/HR
AVG SPEED	10.9	11.6	11.6	5.0	KNOTS
TOW SPEED	-	-	5.1	-	KNOTS

FIGURE B-19

C R A F T P A R A M E T E R S

CRAFT TYPE FLANING CRAFT  
 DISPLACEMENT 96 TONS  
 LENGTH 100 FEET  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 2  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 6  
 (AVERAGE SEA STATE=3.0)

TASK CODE	CARGO CAPTY	DRAFT	MANEUV	SEA STATE	TOW	
	CC	DF	FN	LS	TW	
ON SCENE:						
ASSI	--	1.00	0.95	0.94	--	ASSIST
BOAR	--	1.00	0.95	0.90	--	BOARD
MNAC	--	1.00	0.95	0.95	--	MONITOR ACTIVITIES
RTRV	--	1.00	0.95	0.80	--	RETRIEVE
WAIT	--	--	--	0.95	--	WAIT
WEQU	--	1.00	--	0.80	--	WORK EQUIPMENT @ DRIFT
WEGP	--	1.00	0.95	0.80	--	WORK EQUIPMENT @ POSITION
REDUCED SPEED:						
SDIU	--	1.00	--	0.95	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	0.95	--	SLOW ESCORT
SPAT	--	1.00	--	0.95	--	SLOW PATROL
SPEO	--	1.00	--	0.95	--	SEARCH FOR PEOPLE
TOWS	--	--	1.00	0.95	1.00	TOWS
CRUISE SPEED:						
ESCT	--	--	--	0.95	--	ESCORT
IDNT	--	--	1.00	0.52	--	IDENTIFY
PATL	--	--	--	0.95	--	PATROL
STGT	--	1.00	--	0.52	--	SEARCH FOR TARGET
TRPT	****	--	--	0.95	--	TRANSPORT
TRST	--	--	--	0.95	--	TRANSIT
FLANK SPEED:						
RSPD	--	--	--	0.95	--	RESPOND

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE B-20

C R A F T P A R A M E T E R S

CRAFT TYPE PLANING CRAFT  
 DISPLACEMENT 96 TONS  
 LENGTH 100 FEET  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 3  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 8  
 (AVERAGE SEA STATE=4.0)

TASK CODE	CARGO CFCY	DRAFT DF	MANEUV PN	SEA STATE LS	TOW TW	
ON SCENE:						
ASST	--	1.00	0.95	0.70	--	ASSIST
BRD	--	1.00	0.95	0.65	--	BOARD
MONAC	--	1.00	0.95	0.80	--	MONITOR ACTIVITIES
RETRV	--	1.00	0.95	0.40	--	RETRIEVE
WAIT	--	--	--	0.80	--	WAIT
WEGD	--	1.00	--	0.60	--	WORK EQUIPMENT @ DRIFT
WEGP	--	1.00	0.95	0.40	--	WORK EQUIPMENT @ POSITION
REDUCED SPEED:						
SDIU	--	1.00	--	0.71	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	0.80	--	SLOW ESCORT
SPAT	--	1.00	--	0.80	--	SLOW PATROL
SPEU	--	1.00	--	0.71	--	SEARCH FOR PEOPLE
TOWS	--	--	1.00	0.71	1.00	TOWS
CRUISE SPEED:						
ESCT	--	--	--	0.80	--	ESCORT
IDNT	--	--	1.00	0.24	--	IDENTIFY
PATL	--	--	--	0.80	--	PATROL
STGT	--	1.00	--	0.24	--	SEARCH FOR TARGET
TRPT	****	--	--	0.80	--	TRANSPORT
TRST	--	--	--	0.80	--	TRANSIT
FLANK SPEED:						
RSPD	--	--	--	0.80	--	RESPOND

\*\*\*\* DEPENDENT UPON SCENARIO (I.E., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE B-21

## CRAFT PARAMETERS

CRAFT TYPE           HYDROFOIL-SUBMERGED FOIL  
 DISPLACEMENT       132 TONS  
 LENGTH               100 FEET  
 DESIGN SPEED         50 KNOTS  
 FULL FRACTION       0.50

VISIBILITY DISTRIBUTION NO. 2  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 6  
 (AVERAGE SEA STATE=3.0)

TASK CODE	CARGO CFTY	DRAFT DF	MANEUV MN	SEA STATE LS	TOW TW	
<b>CR. SCENE:</b>						
ASST	--	1.00	0.95	0.95	--	ASSIST
BOARD	--	1.00	0.95	0.95	--	BOARD
MONAC	--	1.00	0.95	0.95	--	MONITOR ACTIVITIES
RETRV	--	1.00	0.95	0.85	--	RETRIEVE
WAIT	--	--	--	0.95	--	WAIT
WELD	--	1.00	--	0.85	--	WORK EQUIPMENT @ DRIFT
WEGP	--	1.00	0.95	0.85	--	WORK EQUIPMENT @ POSITION
<b>REDUCED SPEED:</b>						
SDIU	--	1.00	--	0.95	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	0.95	--	SLOW ESCORT
SPAT	--	1.00	--	0.95	--	SLOW PATROL
SPEO	--	1.00	--	0.95	--	SEARCH FOR PEOPLE
TOWS	--	--	1.00	0.95	1.00	TOWS
<b>CRUISE SPEED:</b>						
ESCT	--	--	--	0.95	--	ESCORT
IDNT	--	--	1.00	0.95	--	IDENTIFY
PATL	--	--	--	0.95	--	PATROL
STGT	--	1.00	--	0.95	--	SEARCH FOR TARGET
TRFT	****	--	--	0.95	--	TRANSPORT
TRST	--	--	--	0.95	--	TRANSIT
<b>FLANK SPEED:</b>						
RSFD	--	--	--	0.95	--	RESPOND

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE B-22

CRAFT PARAMETERS

CRAFT TYPE HYDROFOIL-SUBMERGED FOIL  
 DISPLACEMENT 132 TONS  
 LENGTH 100 FEET  
 DESIGN SPEED 50 KNOTS  
 FUEL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 3  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 8  
 (AVERAGE SEA STATE=4.0)

TASK CODE	CARGO CAPCY	DRAFT DF	MANEUV MN	SEA STATE LS	TOW TW	
OT. SCENE:						
ASST	--	1.00	0.95	0.80	--	ASSIST
BOARD	--	1.00	0.95	0.72	--	BOARD
MONAC	--	1.00	0.95	0.80	--	MONITOR ACTIVITIES
RTRV	--	1.00	0.95	0.57	--	RETRIEVE
WAIT	--	--	--	0.80	--	WAIT
WEGE	--	1.00	--	0.57	--	WORK EQUIPMENT @ DRIFT
WEGP	--	1.00	0.95	0.57	--	WORK EQUIPMENT @ POSITION
REDUCED SPEED:						
SDIU	--	1.00	--	0.80	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	0.80	--	SLOW ESCORT
SPAT	--	1.00	--	0.80	--	SLOW PATROL
SPEG	--	1.00	--	0.80	--	SEARCH FOR PEOPLE
TOWS	--	--	1.00	0.80	1.00	TOWS
CRUISE SPEED:						
ESCT	--	--	--	0.80	--	ESCORT
IDBT	--	--	1.00	0.80	--	IDENTIFY
PATL	--	--	--	0.80	--	PATROL
STGT	--	1.00	--	0.80	--	SEARCH FOR TARGET
TRFT	***	--	--	0.80	--	TRANSPORT
TRST	--	--	--	0.80	--	TRANSIT
FLANK SPEED:						
RSPD	--	--	--	0.80	--	RESPOND

\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE B-23

C R A F T P A R A M E T E R S

CRAFT TYPE AIR CUSHION VEHICLE- LOW P/L  
 DISPLACEMENT 200 TONS  
 LENGTH 135 FEET  
 DESIGN SPEED 60 KNOTS  
 FUEL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 2  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 6  
 (AVERAGE SEA STATE=3.0)

TASK CODE	CARGO CPCTY	DRAFT DF	MANEUV MN	SEA STATE LS	TOW TW	
ON SCENE:						
ASSI	--	1.00	0.89	0.92	--	ASSIST
BOBD	--	1.00	0.89	0.92	--	BOARD
MNAC	--	1.00	0.89	0.92	--	MONITOR ACTIVITIES
RTRV	--	1.00	0.89	0.92	--	RETRIEVE
WAIT	--	--	--	0.92	--	WAIT
WEQB	--	1.00	--	0.92	--	WORK EQUIPMENT @ DRIFT
WEQP	--	1.00	0.89	0.92	--	WORK EQUIPMENT @ POSITION
REDUCED SPEED:						
SDIU	--	1.00	--	0.92	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	0.92	--	SLOW ESCORT
SPAT	--	1.00	--	0.92	--	SLOW PATROL
SPLU	--	1.00	--	0.92	--	SEARCH FOR PEOPLE
TOWS	--	--	1.00	0.92	1.00	TOWS
CRUISE SPEED:						
ESCT	--	--	--	0.92	--	ESCORT
IDNT	--	--	0.84	0.92	--	IDENTIFY
PATL	--	--	--	0.92	--	PATROL
STGT	--	1.00	--	0.92	--	SEARCH FOR TARGET
TRPT	****	--	--	0.92	--	TRANSPORT
TRST	--	--	--	0.92	--	TRANSIT
FLANK SPEED:						
RSPD	--	--	--	0.92	--	RESPOND

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE B-24

C R A F T P A R A M E T E R S

CRAFT TYPE AIR CUSHION VEHICLE- LOW P/L  
 DISPLACEMENT 200 TONS  
 LENGTH 135 FEET  
 DESIGN SPEED 60 KNOTS  
 FUEL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 3  
 ICW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 8  
 (AVERAGE SEA STATE=4.0)

TASK CODE	CARGO CFCY	DRAFT DF	MANEUV EF	SEA STATE LS	ICW TW	
OL. SCENE:						
ASST	--	1.00	0.89	0.69	--	ASSIST
BOARD	--	1.00	0.89	0.69	--	BOARD
MNAC	--	1.00	0.89	0.69	--	MONITOR ACTIVITIES
RTRV	--	1.00	0.89	0.69	--	RETRIEVE
WAIT	--	--	--	0.69	--	WAIT
WEGD	--	1.00	--	0.69	--	WORK EQUIPMENT @ DRIFT
WEGP	--	1.00	0.89	0.69	--	WORK EQUIPMENT @ POSITION
REDUCED SPEED:						
SDIU	--	1.00	--	0.69	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	0.69	--	SLOW ESCORT
SPAT	--	1.00	--	0.69	--	SLOW PATROL
SPEU	--	1.00	--	0.69	--	SEARCH FOR PEOPLE
TOWS	--	--	1.00	0.69	1.00	TOWS
CRUISE SPEED:						
ESCT	--	--	--	0.69	--	ESCORT
IDNT	--	--	0.84	0.69	--	IDENTIFY
PATL	--	--	--	0.69	--	PATROL
STGT	--	1.00	--	0.69	--	SEARCH FOR TARGET
TRPT	****	--	--	0.69	--	TRANSPORT
TRST	--	--	--	0.69	--	TRANSIT
FLANK SPEED:						
RSPD	--	--	--	0.69	--	RESPOND

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE B-25

CRAFT PARAMETERS

CRAFT TYPE COAST GUARD WMEC210  
 DISPLACEMENT 1000 TONS  
 LENGTH 210 FEET  
 DESIGN SPEED 17 KNOTS  
 FUEL FRACTION 0.70

VISIBILITY DISTRIBUTION NO. 2  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 6  
 (AVERAGE SEA STATE=3.0)

TASK CODE	CARGO CAPCY	CRAFT MANEUV			SEA STATE	TOW	
		CC	LF	FR			
ON SCENE:							
ASST	--	1.00	0.80	1.00	--	--	ASSIST
BOARD	--	1.00	0.80	1.00	--	--	BOARD
MONAC	--	1.00	0.80	1.00	--	--	MONITOR ACTIVITIES
RETRV	--	1.00	0.80	1.00	--	--	RETRIEVE
WAIT	--	--	--	1.00	--	--	WAIT
WEGD	--	1.00	--	1.00	--	--	WORK EQUIPMENT @ DRIFT
WEGP	--	1.00	0.80	1.00	--	--	WORK EQUIPMENT @ POSITION
REDUCED SPEED:							
SDIU	--	1.00	--	1.00	--	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	1.00	--	--	SLOW ESCORT
SPAT	--	1.00	--	1.00	--	--	SLOW PATROL
SPEU	--	1.00	--	1.00	--	--	SEARCH FOR PEOPLE
TOWS	--	--	0.50	1.00	1.00	--	TOWS
CRUISE SPEED:							
ESCT	--	--	--	0.10	--	--	ESCORT
IDNT	--	--	1.00	0.10	--	--	IDENTIFY
PATL	--	--	--	0.10	--	--	PATROL
STGT	--	1.00	--	0.10	--	--	SEARCH FOR TARGET
TRPT	****	--	--	0.10	--	--	TRANSPORT
TRST	--	--	--	0.10	--	--	TRANSIT
FLANK SPEED:							
RSPD	--	--	--	0.10	--	--	RESPOND

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE B-26

C R A F T P A R A M E T E R S

CRAFT TYPE COAST GUARD WMEC210  
 DISPLACEMENT 1000 TONS  
 LENGTH 210 FEET  
 DESIGN SPEED 17 KNOTS  
 FUEL FRACTION 0.70

VISIBILITY DISTRIBUTION NO. 3  
 TOR DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 6  
 (AVERAGE SEA STATE=4.0)

TASK CODE	CARGO CFCY	DRAFT DF	MANEUV MN	SEA STATE LS	TOW TW	
UT. SCENE:						
ASST	--	1.00	0.80	1.00	--	ASSIST
BORD	--	1.00	0.80	1.00	--	BOARD
MNAC	--	1.00	0.80	1.00	--	MONITOR ACTIVITIES
RTRV	--	1.00	0.80	1.00	--	RETRIEVE
WAIT	--	--	--	1.00	--	WAIT
WEQU	--	1.00	--	1.00	--	WORK EQUIPMENT @ DRIFT
WEQP	--	1.00	0.80	1.00	--	WORK EQUIPMENT @ POSITION
REDUCED SPEED:						
SDIU	--	1.00	--	1.00	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	1.00	--	SLOW ESCORT
SPAT	--	1.00	--	1.00	--	SLOW PATROL
SPEU	--	1.00	--	1.00	--	SEARCH FOR PEOPLE
TOWS	--	--	0.50	1.00	1.00	TOWS
CRUISE SPEED:						
ESCT	--	--	--	0.05	--	ESCORT
IDBT	--	--	1.00	0.05	--	IDENTIFY
PATL	--	--	--	0.05	--	PATROL
STGT	--	1.00	--	0.05	--	SEARCH FOR TARGET
TRPT	***	--	--	0.05	--	TRANSPORT
TRST	--	--	--	0.05	--	TRANSIT
FLANK SPEED:						
RSPD	--	--	--	0.02	--	RESPOND

\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE B-27

C R A F T P A R A M E T E R S

CRAFT TYPE COAST GUARD WMEC270  
 DISPLACEMENT 1780 TONS  
 LENGTH 270 FEET  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.91

VISIBILITY DISTRIBUTION NO. 2  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 6  
 (AVERAGE SEA STATE=3.0)

TASK CODE	CARGO LPTY	DRAFT DF	MANEUV MN	SEA STATE LS	TOW Tw	
ON SCENE:						
ASST	--	1.00	0.80	1.00	--	ASSIST
BOARD	--	1.00	0.80	1.00	--	BOARD
MNAC	--	1.00	0.80	1.00	--	MONITOR ACTIVITIES
RTRV	--	1.00	0.80	1.00	--	RETRIEVE
WAIT	--	--	--	1.00	--	WAIT
WEGD	--	1.00	--	1.00	--	WORK EQUIPMENT @ DRIFT
WEGP	--	1.00	0.80	1.00	--	WORK EQUIPMENT @ POSITION
REDUCED SPEED:						
SDIU	--	1.00	--	1.00	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	1.00	--	SLOW ESCORT
SPAT	--	1.00	--	1.00	--	SLOW PATROL
SPEC	--	1.00	--	1.00	--	SEARCH FOR PEOPLE
TOWS	--	--	0.50	1.00	1.00	TOWS
CRUISE SPEED:						
ESCT	--	--	--	0.25	--	ESCORT
IDNT	--	--	1.00	0.25	--	IDENTIFY
PATL	--	--	--	0.25	--	PATROL
STGT	--	1.00	--	0.25	--	SEARCH FOR TARGET
TRPT	****	--	--	0.25	--	TRANSPORT
TRSI	--	--	--	0.25	--	TRANSIT
FLANK SPEED:						
RSPD	--	--	--	0.37	--	RESPOND

\*\*\*\* DIFFERENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE B-28

CRAFT PARAMETERS

CRAFT TYPE COAST GUARD WMEC270  
 DISPLACEMENT 1780 TONS  
 LENGTH 270 FEET  
 DESIGN SPEED 20 KNOTS  
 FULL FRACTION 0.91

VISIBILITY DISTRIBUTION NO. 3  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 8  
 (AVERAGE SEA STATE=4.0)

TASK CODE	CARGO CAPTY	DRAFT DF	MANEUV FN	SEA STATE LS	TOW Tw	
ON SCENE:						
ASST	--	1.00	0.80	1.00	--	ASSIST
BOARD	--	1.00	0.80	1.00	--	BOARD
MONAC	--	1.00	0.80	1.00	--	MONITOR ACTIVITIES
RTRV	--	1.00	0.80	1.00	--	RETRIEVE
WAIT	--	--	--	1.00	--	WAIT
WEGU	--	1.00	--	1.00	--	WORK EQUIPMENT @ DRIFT
WEGP	--	1.00	0.80	1.00	--	WORK EQUIPMENT @ POSITION
REDUCED SPEED:						
SDIU	--	1.00	--	1.00	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	1.00	--	SLOW ESCORT
SPAT	--	1.00	--	1.00	--	SLOW PATROL
SPEU	--	1.00	--	1.00	--	SEARCH FOR PEOPLE
TOWS	--	--	0.50	1.00	1.00	TOWS
CRUISE SPEED:						
ESCT	--	--	--	0.00	--	ESCORT
IDNT	--	--	1.00	0.00	--	IDENTIFY
PATL	--	--	--	0.00	--	PATROL
STGT	--	1.00	--	0.00	--	SEARCH FOR TARGET
TRPT	****	--	--	0.00	--	TRANSPORT
TRST	--	--	--	0.00	--	TRANSIT
FLANK SPEED:						
RSPU	--	--	--	0.10	--	RESPOND

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE B-29

CRAFT PARAMETERS

CRAFT TYPE SWATH  
 DISPLACEMENT 2000 TONS  
 LENGTH 250 FEET  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 2  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 6  
 (AVERAGE SEA STATE=3.0)

TASK CODE	CARGO CAPCY	DRAFT DF	MANEUV MN	SEA STATE LS	TOW TW	
<b>ON SCENE:</b>						
ASST	--	1.00	0.00	1.00	--	ASSIST
ECRD	--	1.00	0.00	1.00	--	BOARD
MNAC	--	1.00	0.00	1.00	--	MONITOR ACTIVITIES
RTRV	--	1.00	0.00	1.00	--	RETRIEVE
WAIT	--	--	--	1.00	--	WAIT
WEGD	--	1.00	--	1.00	--	WORK EQUIPMENT @ DRIFT
WEPF	--	1.00	0.00	1.00	--	WORK EQUIPMENT @ POSITION
<b>REDUCED SPEED:</b>						
SDIU	--	1.00	--	1.00	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	1.00	--	SLOW ESCORT
SPAT	--	1.00	--	1.00	--	SLOW PATROL
SPEC	--	1.00	--	1.00	--	SEARCH FOR PEOPLE
TOWS	--	--	1.00	1.00	1.00	TOWS
<b>CRUISE SPEED:</b>						
ESCT	--	--	--	1.00	--	ESCORT
IDNT	--	--	1.00	1.00	--	IDENTIFY
PATL	--	--	--	1.00	--	PATROL
STGT	--	1.00	--	1.00	--	SEARCH FOR TARGET
TRPT	****	--	--	1.00	--	TRANSPORT
TRST	--	--	--	1.00	--	TRANSIT
<b>FLANK SPEED:</b>						
RSPD	--	--	--	1.00	--	RESPOND

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE B-30

CRAFT PARAMETERS

CRAFT TYPE SWATH  
 DISPLACEMENT 2000 TONS  
 LENGTH 250 FEET  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 3  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 8  
 (AVERAGE SEA STATE=4.0)

TASK CODE	CARGO CAPCY	DRAFT DF	FAREGV DV	SEA STATE LS	TOW TW	
ON SCENE:						
ASST	--	1.00	0.00	1.00	--	ASSIST
BOARD	--	1.00	0.00	1.00	--	BOARD
MONAC	--	1.00	0.00	1.00	--	MONITOR ACTIVITIES
RETRV	--	1.00	0.00	1.00	--	RETRIEVE
WAIT	--	--	--	1.00	--	WAIT
WREQ	--	1.00	--	1.00	--	WORK EQUIPMENT & DRIFT
WREP	--	1.00	0.00	1.00	--	WORK EQUIPMENT & POSITION
REDUCED SPEED:						
SDIU	--	1.00	--	1.00	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	1.00	--	SLOW ESCORT
SPAT	--	1.00	--	1.00	--	SLOW PATROL
SPEU	--	1.00	--	1.00	--	SEARCH FOR PEOPLE
TOWS	--	--	1.00	1.00	1.00	TOWS
CRUISE SPEED:						
ESCT	--	--	--	1.00	--	ESCORT
IDNT	--	--	1.00	1.00	--	IDENTIFY
PATL	--	--	--	1.00	--	PATROL
STGT	--	1.00	--	1.00	--	SEARCH FOR TARGET
TRPT	***	--	--	1.00	--	TRANSPORT
TRST	--	--	--	1.00	--	TRANSIT
FLANK SPEED:						
RSPN	--	--	--	1.00	--	RESPOND

\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE B-31

TASK PROBABILITIES OF SUCCESS

CRAFT TYPE FLANING CRAFT  
 DISPLACEMENT 96 TONS  
 LENGTH 100 FEET  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 2  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 6  
 (AVERAGE SEA STATE=3.0)

TASK TASK PROB. TASK  
 CODE OF SUCCESS

ON SCENE:

ASST	0.575	ASSIST
BOARD	0.841	BOARD
MONAC	0.837	MONITOR ACTIVITIES
RETRV	0.801	RETRIEVE
WAIT	0.950	WAIT
WEGD	0.839	WORK EQUIPMENT @ DRIFT
WEGP	0.801	WORK EQUIPMENT @ POSITION

REDUCED SPEED:

SUIU	0.926*	SEARCH FOR DISTRESSED UNIT
SESC	0.950	SLOW ESCORT
SPAT	0.950	SLOW PATROL
SPEO	0.926*	SEARCH FOR PEOPLE
TOWS	0.926	TOWS

CRUISE SPEED:

ESCT	0.950	ESCORT
IDRT	0.517	IDENTIFY
PATL	0.950	PATROL
SIGT	0.517*	SEARCH FOR TARGET
TRPT	*****	TRANSPORT
TRST	0.950	TRANSIT

FLANK SPEED:

RSPD	0.950	RESPOND
------	-------	---------

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON SCENARIO (E.G., SEARCH AREA)

\*\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE B-32

TASK PROBABILITIES OF SUCCESS

CRAFT TYPE PLANING CRAFT  
 DISPLACEMENT 96 TONS  
 LENGTH 100 FEET  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 3  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 8  
 (AVERAGE SEA STATE=4.0)

TASK TASK PROB. TASK  
 CODE OF SUCCESS

ON SCENE:

ASST	0.795	ASSIST
BOARD	0.507	BOARD
MONAC	0.747	MONITOR ACTIVITIES
RTRV	0.448	RETRIEVE
WAIT	0.800	WAIT
WEQB	0.400	WORK EQUIPMENT IN DRIFT
WEQP	0.448	WORK EQUIPMENT IN POSITION

REDUCED SPEED:

SUIU	0.715*	SEARCH FOR DISTRESSED UNIT
SESC	0.800	SLOW ESCORT
SPAT	0.800	SLOW PATROL
SPEC	0.715*	SEARCH FOR PEOPLE
TOWS	0.715	TOWS

CRUISE SPEED:

ESCT	0.800	ESCORT
IDNT	0.242	IDENTIFY
PATL	0.800	PATROL
STGT	0.242*	SEARCH FOR TARGET
TRPT	*****	TRANSPORT
TRST	0.800	TRANSIT

FLANK SPEED:

RSPD	0.800	RESPOND
------	-------	---------

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON SCENARIO (E.G., SEARCH AREA)

\*\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE B-33

TASK PROBABILITIES OF SUCCESS

CRAFT TYPE HYDROFOIL-SUBMERGED FOIL  
 DISPLACEMENT 132 TONS  
 LENGTH 100 FEET  
 DESIGN SPEED 50 KNOTS  
 FULL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 2  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 6  
 (AVERAGE SEA STATE=3.0)

TASK CODE	TASK PROB. OF SUCCESS	TASK
ON SCENE:		
ASST	0.807	ASSIST
BORD	0.804	BOARD
MONAC	0.807	MONITOR ACTIVITIES
RTRV	0.824	RETRIEVE
WAIT	0.950	WAIT
WEGD	0.803	WORK EQUIPMENT @ DRIFT
WEGP	0.824	WORK EQUIPMENT @ POSITION
REDUCED SPEED:		
SDIU	0.950*	SEARCH FOR DISTRESSED UNIT
SESC	0.950	SLOW ESCORT
SPAT	0.950	SLOW PATROL
SPEO	0.950*	SEARCH FOR PEOPLE
TOWS	0.950	TOWS
CRUISE SPEED:		
ESCT	0.950	ESCORT
IDNT	0.950	IDENTIFY
PATL	0.950	PATROL
STGT	0.950*	SEARCH FOR TARGET
TRPT	****	TRANSPORT
TRST	0.950	TRANSIT
FLANK SPEED:		
RSPD	0.950	RESPOND

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON SCENARIO (E.G., SEARCH AREA)

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE B-34

T A S K P R O B A B I L I T I E S O F S U C C E S S

CRAFT TYPE HYDROFOIL-SUBMERGED-FOIL  
 DISPLACEMENT 132 TONS  
 LENGTH 100 FEET  
 DESIGN SPEED 50 KNOTS  
 FUEL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 3  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 3  
 (AVERAGE SEA STATE=4.0)

TASK TASK PROB. TASK  
 CODE OF SUCCESS

ON SCENE:

ASST	0.747	ASSIST
BURD	0.668	BOARD
MNAC	0.747	MONITOR ACTIVITIES
RTRV	0.529	RETRIEVE
WAIT	0.800	WAIT
WEGD	0.507	WORK EQUIPMENT @ DRIFT
WEGP	0.529	WORK EQUIPMENT @ POSITION

REDUCED SPEED:

SLIU	0.800*	SEARCH FOR DISTRESSED UNIT
SESC	0.800	SLOW ESCORT
SPAT	0.800	SLOW PATROL
SPEO	0.800*	SEARCH FOR PEOPLE
TOWS	0.800	TOWS

CRUISE SPEED:

ESCT	0.800	ESCORT
IDNT	0.800	IDENTIFY
PATL	0.800	PATROL
STGT	0.800*	SEARCH FOR TARGET
TRPT	****	TRANSPORT
TRST	0.800	TRANSIT

FLANK SPEED:

RSPD	0.800	RESPOND
------	-------	---------

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON SCENARIO (E.G., SEARCH AREA)

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE B-35

T A S K P R O B A B I L I T I E S O F S U C C E S S

CRAFT TYPE AIR CUSHION VEHICLE- LOW P/L  
DISPLACEMENT 200 TONS  
LENGTH 135 FEET  
DESIGN SPEED 60 KNOTS  
FUEL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 2  
TOW DISTRIBUTION NO. 1  
DEPTH DISTRIBUTION NO. 1  
SLA STATE DISTRIBUTION NO. 6  
(AVERAGE SEA STATE=3.0)

TASK CODE	TASK PROB. OF SUCCESS	TASK
ON SCENE:		
ASST	0.816	ASSIST
BORD	0.816	BOARD
MNAC	0.816	MONITOR ACTIVITIES
RTRV	0.816	RETRIEVE
WAIT	0.920	WAIT
WEQU	0.920	WORK EQUIPMENT @ DRIFT
WEQP	0.816	WORK EQUIPMENT @ POSITION
REDUCED SPEED:		
SDIU	0.920*	SEARCH FOR DISTRESSED UNIT
SESC	0.920	SLOW ESCORT
SPAT	0.920	SLOW PATROL
SPEQ	0.920*	SEARCH FOR PEOPLE
TOWS	0.920	TOWS
CRUISE SPEED:		
ESCT	0.920	ESCORT
IDNT	0.772	IDENTIFY
PATL	0.920	PATROL
STGT	0.920*	SEARCH FOR TARGET
TRPT	****	TRANSPORT
TRST	0.920	TRANSIT
FLANK SPEED:		
RSPD	0.920	RESPOND

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON SCENARIO (E.G., SEARCH AREA)

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE B-36

~~TASK PROBABILITIES OF SUCCESS~~

CRAFT TYPE AIR CUSHION VEHICLE - LOW P/L  
 DISPLACEMENT 200 TONS  
 LENGTH 135 FEET  
 DESIGN SPEED 60 KNOTS  
 FUEL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 3  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 8  
 (AVERAGE SEA STATE=4.0)

TASK TASK PROF. T/S  
 CODE OF SUCCESS

ON SCENE:

ASST	0.616	ASSIST
BOARD	0.616	BOARD
MNAC	0.616	MONITOR ACTIVITIES
RTRV	0.616	RETRIEVE
WAIT	0.695	WAIT
WEQU	0.695	WORK EQUIPMENT @ DRIFT
WEQP	0.616	WORK EQUIPMENT @ POSITION

REDUCED SPEED:

SUIU	0.695*	SEARCH FOR DISTRESSED UNIT
SESC	0.695	SLOW ESCORT
SPAT	0.695	SLOW PATROL
SPEU	0.695*	SEARCH FOR PEOPLE
TOWS	0.695	TOWS

CRUISE SPEED:

ESCT	0.695	ESCORT
IDNT	0.583	IDENTIFY
PATL	0.695	PATROL
STGT	0.695*	SEARCH FOR TARGET
TRPT	*****	TRANSPORT
TRST	0.695	TRANSIT

FLANK SPEED:

RSPD	0.695	RESPOND
------	-------	---------

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON SCENARIO (E.G., SEARCH AREA)

\*\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE B-37

TASK PROBABILITIES OF SUCCESS

CRAFT TYPE COAST GUARD WMEC210  
 DISPLACEMENT 1000 TONS  
 LENGTH 210 FEET  
 DESIGN SPEED 17 KNOTS  
 FUEL FRACTION 0.70

VISIBILITY DISTRIBUTION NO. 2  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 6  
 (AVERAGE SEA STATE=3.0)

TASK CODE	TASK PROB. OF SUCCESS	TASK
ON SCENE:		
ASST	0.800	ASSIST
BORD	0.800	BOARD
MNAC	0.800	MONITOR ACTIVITIES
RTRV	0.800	RETRIEVE
WAIT	1.000	WAIT
WEQD	1.000	WORK EQUIPMENT @ DRIFT
WEQP	0.800	WORK EQUIPMENT @ POSITION
REDUCED SPEED:		
SDIU	1.000*	SEARCH FOR DISTRESSED UNIT
SESC	1.000	SLOW ESCORT
SPAT	1.000	SLOW PATROL
SPEO	1.000*	SEARCH FOR PEOPLE
TOWS	0.500	TOWS
CRUISE SPEED:		
ESCT	0.125	ESCORT
IDNT	0.125	IDENTIFY
PATL	0.125	PATROL
STGT	0.125*	SEARCH FOR TARGET
TRPT	****	TRANSPORT
TRST	0.125	TRANSIT
FLANK SPEED:		
RSPD	0.100	RESPOND

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON SCENARIO (E.G., SEARCH AREA)

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE B-38

TASK PROBABILITIES OF SUCCESS

CRAFT TYPE COAST GUARD WMEC210  
 DISPLACEMENT 1000 TONS  
 LENGTH 210 FEET  
 DESIGN SPEED 17 KNOTS  
 FUEL FRACTION 0.70

VISIBILITY DISTRIBUTION NO. 3  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 8  
 (AVERAGE SEA STATE=4.0)

TASK CODE	TASK PROB. OF SUCCESS	TASK
ON SCENE:		
ASST	0.800	ASSIST
BOARD	0.800	BOARD
MONAC	0.800	MONITOR ACTIVITIES
RTRV	0.800	RETRIEVE
WAIT	1.000	WAIT
WEGD	1.000	WORK EQUIPMENT @ DRIFT
WEGP	0.800	WORK EQUIPMENT @ POSITION
REDUCED SPEED:		
SDIU	1.000*	SEARCH FOR DISTRESSED UNIT
SESC	1.000	SLOW ESCORT
SPAT	1.000	SLOW PATROL
SPEU	1.000*	SEARCH FOR PEOPLE
TOWS	0.800	TOWS
CRUISE SPEED:		
ESCT	0.025	ESCORT
IDNT	0.025	IDENTIFY
PATL	0.025	PATROL
STGT	0.025*	SEARCH FOR TARGET
TRPT	*****	TRANSPORT
TRST	0.025	TRANSIT
FLANK SPEED:		
RSPD	0.010	RESPOND

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON SCENARIO (E.G., SEARCH AREA)

\*\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE B-39

# TASK PROBABILITIES OF SUCCESS

CRAFT TYPE COAST GUARD WMEC270  
 DISPLACEMENT 1780 TONS  
 LENGTH 270 FEET  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.91

VISIBILITY DISTRIBUTION NO. 2  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 6  
 (AVERAGE SEA STATE=3.0)

TASK CODE	TASK PROB. OF SUCCESS	TASK
ON SCENE:		
ASST	0.800	ASSIST
BOARD	0.800	BOARD
MONAC	0.800	MONITOR ACTIVITIES
RTRV	0.800	RETRIEVE
WAIT	1.000	WAIT
WEQU	1.000	WORK EQUIPMENT @ DRIFT
WEQP	0.800	WORK EQUIPMENT @ POSITION
REDUCED SPEED:		
SDIU	1.000*	SEARCH FOR DISTRESSED UNIT
SESC	1.000	SLOW ESCORT
SPAT	1.000	SLOW PATROL
SPEQ	1.000*	SEARCH FOR PEOPLE
TOWS	0.500	TOWS
CRUISE SPEED:		
ESCT	0.253	ESCORT
IDNT	0.253	IDENTIFY
PATL	0.253	PATROL
STGT	0.253*	SEARCH FOR TARGET
TRPT	****	TRANSPORT
TRST	0.253	TRANSIT
FLANK SPEED:		
RSPD	0.370	RESPOND

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON SCENARIO (E.G., SEARCH AREA)

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE B-40

TASK PROBABILITIES OF SUCCESS

CRAFT TYPE COAST GUARD WMEC270  
 DISPLACEMENT 1780 TONS  
 LENGTH 270 FEET  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.91

VISIBILITY DISTRIBUTION NO. 3  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 8  
 (AVERAGE SEA STATE=4.0)

TASK CODE	TASK PROB. OF SUCCESS	TASK
ON SCENE:		
ASST	0.800	ASSIST
BRD	0.800	BOARD
MNAC	0.800	MONITOR ACTIVITIES
RTRV	0.800	RETRIEVE
WAIT	1.000	WAIT
WEGD	1.000	WORK EQUIPMENT @ DRIFT
WEGP	0.800	WORK EQUIPMENT @ POSITION
REDUCED SPEED:		
SLIU	1.000*	SEARCH FOR DISTRESSED UNIT
SESC	1.000	SLOW ESCORT
SPAT	1.000	SLOW PATROL
SPEO	1.000*	SEARCH FOR PEOPLE
TOWS	0.500	TOWS
CRUISE SPEED:		
ESCT	0.002	ESCORT
IDNT	0.002	IDENTIFY
PATL	0.002	PATROL
STGT	0.002*	SEARCH FOR TARGET
TRPT	****	TRANSPORT
TRST	0.002	TRANSIT
FLANK SPEED:		
RSPD	0.152	RESPOND

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON SCENARIO (E.G., SEARCH AREA)

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE B-41

TASK PROBABILITIES OF SUCCESS

CRAFT TYPE SWATH  
 DISPLACEMENT 2000 TONS  
 LENGTH 250 FEET  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 2  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 6  
 (AVERAGE SEA STATE=3.0)

TASK CODE	TASK PROB. OF SUCCESS	TASK
ON SCENE:		
ASST	0.800	ASSIST
BOARD	0.800	BOARD
MNAC	0.800	MONITOR ACTIVITIES
RTRV	0.800	RETRIEVE
WAIT	1.000	WAIT
WEQU	1.000	WORK EQUIPMENT @ DRIFT
WEQP	0.800	WORK EQUIPMENT @ POSITION
REDUCED SPEED:		
SDIU	1.000*	SEARCH FOR DISTRESSED UNIT
SESC	1.000	SLOW ESCORT
SPAT	1.000	SLOW PATROL
SPEO	1.000*	SEARCH FOR PEOPLE
TOWS	1.000	TOWS
CRUISE SPEED:		
ESCT	1.000	ESCORT
IDNT	1.000	IDENTIFY
PATL	1.000	PATROL
STGT	1.000*	SEARCH FOR TARGET
TRPT	*****	TRANSPORT
TRST	1.000	TRANSIT
FLANK SPEED:		
KSPD	1.000	RESPOND

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON SCENARIO (E.G., SEARCH AREA)

\*\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE B-42

TASK PROBABILITIES OF SUCCESS

CRAFT TYPE SWATH  
 DISPLACEMENT 2000 TONS  
 LENGTH 250 FEET  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.50

VISIBILITY DISTRIBUTION NO. 3  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 8  
 (AVERAGE SEA STATE=4.0)

TASK TASK PROB. TASK  
 CODE OF SUCCESS

ON SCENE:

ASST	0.800	ASSIST
BOAR	0.800	BOARD
ANAC	0.800	ANATOR ACTIVITIES
RTRV	0.800	RETRIEVE
WAIT	1.000	WAIT
WEQD	1.000	WORK EQUIPMENT @ DRIFT
WEQP	0.800	WORK EQUIPMENT @ POSITION

REDUCED SPEED:

SDIU	1.000*	SEARCH FOR DISTRESSED UNIT
SESC	1.000	SLOW ESCORT
SPAT	1.000	SLOW PATROL
SPEC	1.000*	SEARCH FOR PEOPLE
TOWS	1.000	TOWS

CRUISE SPEED:

ESCT	1.000	ESCORT
IDNT	1.000	IDENTIFY
PATL	1.000	PATROL
STGT	1.000*	SEARCH FOR TARGET
TRPT	****	TRANSPORT
TRST	1.000	TRANSIT

FLANK SPEED:

RSPD	1.000	RESPOND
------	-------	---------

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON SCENARIO (E.G., SEARCH AREA)

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE B-43

ELT SCENARIO 4  
 SORTIE NUMBER 11

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 3.0

SELECTED CRAFT:

PLANING CRAFT  
 DISPLACEMENT 96 TONS  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
					1
STEAM	*INTERDICT	150201			
		150204	3.6	1456	0.95
		150202			
					4
SENSOR SEARCH	*SEARCH FOR SHIP : FAILED	930101			
		930109	5.0	1824	0.52
					2
STEAM	*TRANSIT	150501			
		150502	6.0	2203	0.95
					2

TIME TO COMPLETE SORTIE (HRS)

14.6

FUEL CONSUMED IN SORTIE (GALS)

5484

SORTIE PROBABILITY OF SUCCESS

0.5174

SORTIE FREQUENCY OF OCCURRENCE

0.1538

FIGURE B-44

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 3.0

SELECTED CRAFT:

PLANING CRAFT  
 DISPLACEMENT 96 TONS  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

FRACTION OF SCENARIO COMPLETED 0.8912

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FUEL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	14.8	4376	0.0720	0.4829	0.0348
2	22.2	6506	0.0386	0.4829	0.0186
3	19.2	5546	0.0579	0.4829	0.0280
4	12.8	3987	0.4536	0.4829	0.2191
5	14.6	4373	0.0080	0.4829	0.0039
6	22.0	6301	0.0043	0.4829	0.0021
7	19.0	5343	0.0064	0.4829	0.0031
8	12.6	3980	0.0504	0.4829	0.0243
9	15.5	4827	0.0185	0.4829	0.0089
10	12.5	3869	0.0277	0.4829	0.0134
11	14.6	5484	0.1538	0.5174	0.0796

FIGURE B-45

ELT SCENARIO 4  
 SORTIE NUMBER 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD TO FAIR  
 AVERAGE SEA STATE 4.0

SELECTED CRAFT:

PLANING CRAFT  
 DISPLACEMENT 96 TONS  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
		1			
STEAM	*TRANSIT	150101 150102	5.0	1564	0.60
		3			
SEARCH FLEET	*SEARCH FOR FLEET	110101 110102	1.5	469	0.80
		5			
IDENTIFY	*IDENTIFY FLEET	40101 40102	1.7	540	0.24
		9			
INSPECT	*BOARD	50101 50105	0.2	3	0.59
	*INSPECTION	50106	1.5	34	0.80
	*RETRIEVE BOARDING PARTY	50102	0.2	3	0.59
		11			
SEIZE	*SEIZE	120101 120103	1.0	23	0.80
	*ESCORT	120102	6.2	1956	0.80
		2			
TIME TO COMPLETE SORTIE (HRS)			17.2		
FUEL CONSUMED IN SORTIE (GALS)				4596	
SORTIE PROBABILITY OF SUCCESS					0.2260
SORTIE FREQUENCY OF OCCURRENCE					0.0080

FIGURE B-46

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD TO FAIR  
 AVERAGE SEA STATE 4.0

SELECTED CRAFT:

PLANING CRAFT  
 DISPLACEMENT 96 TONS  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

FRACTION OF SCENARIO COMPLETED 0.8254

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FUEL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	17.4	4601	0.0720	0.2260	0.0163
2	22.5	5763	0.0373	0.2260	0.0084
3	15.2	4186	0.4536	0.2260	0.1025
4	17.2	4596	0.0060	0.2260	0.0018
5	22.1	5756	0.0041	0.2260	0.0009
6	14.9	4181	0.0504	0.2260	0.0114
7	18.1	4838	0.0108	0.2260	0.0024
8	14.7	4033	0.0162	0.2260	0.0037
9	17.0	5523	0.1730	0.2422	0.0419

FIGURE B-47

ELT SCENARIO 4  
 SORTIE NUMBER 9

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY 0000  
 AVERAGE SEA STATE 3.0

SELECTED CRAFT:

HYDROFOIL-SUBMERGED FOIL  
 DISPLACEMENT 132 TONS  
 DESIGN SPEED 50 KNOTS  
 FUEL FRACTION 0.50

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
		1			
STEAM	*INTERDICT	150201 150204 150202	2.7	1222	0.95
		4			
SENSOR SEARCH	*SEARCH FOR SHIP : FOUND	130101 130102	1.8	685	0.95
		7			
IDENTIFY	*IDENTIFY CRAFT	40201 40203 40202	0.5	212	0.95
		10			
INSPECT	*LAUNCH SMALL BOAT	50201 50203	0.3	10	0.82
	*INSPECTIVE	50204	2.0	80	0.95
	*RETRIEVE SMALL BOAT	50202	0.3	10	0.82
		12			
SEIZE	*SEIZE	120201 120203	1.0	40	0.95
	*ESCORT	120202	4.6	1789	0.95
		2			

TIME TO COMPLETE SORTIE (HRS)

13.1

FUEL CONSUMED IN SORTIE (GALS)

4051

SORTIE PROBABILITY OF SUCCESS

0.8244

SORTIE FREQUENCY OF OCCURRENCE

0.0332

FIGURE B-48

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.50  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 3.0

SELECTED CRAFT:

HYDROFOIL-SUBMERGED FOIL  
 DISPLACEMENT 132 TONS  
 DESIGN SPEED 50 KNOTS  
 FUEL FRACTION 0.50

FRACTION OF SCENARIO COMPLETED 0.9486

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FUEL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	12.4	3739	0.0720	0.8244	0.0594
2	19.0	5524	0.0593	0.8244	0.0488
3	16.4	4887	0.0889	0.8244	0.0733
4	10.6	3400	0.4536	0.8244	0.3740
5	12.2	3731	0.0060	0.8642	0.0069
6	18.8	5516	0.0066	0.8244	0.0054
7	16.2	4879	0.0099	0.8244	0.0081
8	10.4	3092	0.0504	0.8642	0.0436
9	13.1	4051	0.0332	0.8244	0.0274
10	10.8	3414	0.0498	0.8244	0.0411
11	12.5	4944	0.1170	0.9500	0.1111

FIGURE B-49

ELT SCENARIO 4  
 SORTIE NUMBER 2

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD TO FAIR  
 AVERAGE SEA STATE 4.0

SELECTED CRAFT:

HYDROFOIL-SUBMERGED FOIL  
 DISPLACEMENT 132 TONS  
 DESIGN SPEED 50 KNOTS  
 FUEL FRACTION 0.50

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
		1			
STEAM		150101			
	*TRANSIT	150102	3.9	1289	0.80
		3			
SEARCH FLEET		110101			
	*SEARCH FOR FLEET	110102	1.2	386	0.80
		5			
IDENTIFY		40101			
	*IDENTIFY FLEET	40102	1.7	547	0.80
		9			
INSPECT		50101			
	*LAUNCH SMALL BOAT	50103	0.3	10	0.53
	*INSPECTION	50104	1.5	60	0.80
	*RETRIEVE SMALL BOAT	50102	0.3	10	0.53
		11			
		6			
STEAM		150301			
	*INTERDICT	150304	1.7	666	0.80
		150302			
		4			
SENSOR SEARCH		130101			
	*SEARCH FOR SHIP : FOUND	130102	1.6	516	0.80
		7			
IDENTIFY		40201			
	*IDENTIFY CRAFT	40203	0.6	196	0.80
		40202			
		10			
INSPECT		50201			
	*LAUNCH SMALL BOAT	50203	0.3	10	0.53
	*INSPECTION	50204	2.0	80	0.80
	*RETRIEVE SMALL BOAT	50202	0.3	10	0.53
		12			
SEIZE		120201			
	*SEIZE	120203	1.0	40	0.80
	*ESCORT	120202	5.8	1934	0.80
		2			

TIME TO COMPLETE SORTIE (HRS)

22.0

FUEL CONSUMED IN SORTIE (GALS)

5763

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD TO FAIR  
 AVERAGE SEA STATE 4.0

SELECTED CRAFT:

HYDROFOIL-SUBMERGED FOIL  
 DISPLACEMENT 132 TONS  
 DESIGN SPEED 50 KNOTS  
 FUEL FRACTION 0.50

FRACTION OF SCENARIO COMPLETED 0.8975

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FUEL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	14.6	3556	0.0720	0.5289	0.0381
2	22.0	5763	0.0409	0.5289	0.0216
3	19.0	5078	0.0613	0.5289	0.0324
4	12.6	3595	0.4536	0.5289	0.2399
5	14.4	3950	0.0080	0.6681	0.0053
6	21.2	5755	0.0045	0.5289	0.0024
7	18.8	5089	0.0066	0.5289	0.0036
8	12.4	3567	0.0504	0.6681	0.0337
9	15.3	4226	0.0199	0.5289	0.0105
10	12.3	3541	0.0298	0.5289	0.0158
11	14.3	4922	0.1504	0.8000	0.1203

FIGURE B-51

ELT SCENARIO 4  
 SORTIE NUMBER 2

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 3.0

SELECTED CRAFT:

AIR CUSHION VEHICLE- LOW P/L  
 DISPLACEMENT 200 TONS  
 DESIGN SPEED 60 KNOTS  
 FUEL FRACTION 0.50

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
		1			
STEAM	*TRANSIT	150101			
		150102	2.7	3123	0.92
		3			
SEARCH FLEET		110101			
	*SEARCH FOR FLEET	110102	0.8	936	0.92
		5			
IDENTIFY		40101			
	*IDENTIFY FLEET	40102	1.5	1707	0.77
		9			
INSPECT		50101			
	*BOARD	50105	0.2	36	0.82
	*INSPECTION	50106	1.5	294	0.92
	*RETRIEVE BOARDING PARTY	50102	0.2	36	0.82
		11			
SEIZE		120101			
	*SEIZE	120103	1.0	196	0.92
	*ESCORT	120102	3.4	3903	0.92
		2			
TIME TO COMPLETE SORTIE (HRS)			11.2		
FUEL CONSUMED IN SORTIE (GALS)				10234	
SORTIE PROBABILITY OF SUCCESS					0.7716
SORTIE FREQUENCY OF OCCURRENCE					0.0080

FIGURE B-52

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY 5000  
 AVERAGE SEA STATE 3.0

SELECTED CRAFT:

AIR CUSHION VEHICLE- LOW P/L  
 DISPLACEMENT 200 TONS  
 DESIGN SPEED 60 KNOTS  
 FUEL FRACTION 0.50

FRACTION OF SCENARIO COMPLETED 0.5742

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FUEL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	9.0	9306	0.4536	0.7716	0.3500
2	11.2	10234	0.0080	0.7716	0.0062
3	9.5	9257	0.0504	0.7716	0.0389
4	10.0	9731	0.0622	0.7716	0.0480

FIGURE B-53

ELT SCENARIO 4  
SORTIE NUMBER 2

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
RANGE FRACTION 0.90  
VISIBILITY GOOD TO FAIR  
AVERAGE SEA STATE 4.0

SELECTED CRAFT:

AIR CUSHION VEHICLE- LOW P/L  
DISPLACEMENT 200 TONS  
DESIGN SPEED 60 KNOTS  
FUEL FRACTION 0.50

NO SORTIES CAN BE COMPLETED

FIGURE B-54

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
RANGE FRACTION 0.90  
VISIBILITY GOOD TO FAIR  
AVERAGE SEA STATE 4.0

SELECTED CRAFT:

AIR CUSHION VEHICLE- LOW P/L  
DISPLACEMENT 200 TONS  
DESIGN SPEED 60 KNOTS  
FUEL FRACTION 0.50

NO SORTIES CAN BE COMPLETED

FIGURE B-55

ELT SCENARIO 4  
 SORTIE NUMBER 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 3.0

SELECTED CRAFT:

WMEC210  
 DISPLACEMENT 1000 TONS  
 DESIGN SPEED 17 KNOTS  
 FUEL FRACTION 0.70

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
		1			
STEAM	*TRANSIT	150101			
		150102	17.2	1714	0.13
		2			
SEARCH FLEET	*SEARCH FOR FLEET	110101			
		110102	5.1	514	0.13
		5			
IDENTIFY	*IDENTIFY FLEET	40101			
		40102	2.3	226	0.13
		9			
INSPECT	*LAUNCH SMALL BOAT	50101			
		50103	0.4	20	0.80
	*INSPECTION	50104	1.5	70	1.00
	*RETRIEVE SMALL BOAT	50102	0.4	20	0.80
		11			
		e			
		13			
STEAM	*TRANSIT	150401			
		150402	17.2	1714	0.13
		2			
TIME TO COMPLETE SORTIE (HRS)			44.1		
FUEL CONSUMED IN SORTIE (GALS)				4280	
SORTIE PROBABILITY OF SUCCESS					0.1012
SORTIE FREQUENCY OF OCCURRENCE					0.4536

FIGURE B-56

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 3.0

SELECTED CRAFT:

WMEC210  
 DISPLACEMENT 1000 TONS  
 DESIGN SPEED 17 KNOTS  
 FUEL FRACTION 0.70

FRACTION OF SCENARIO COMPLETED 0.7040

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FUEL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	44.1	4280	0.4536	0.1012	0.0459
2	43.7	4264	0.0504	0.1012	0.0051
3	40.4	3963	0.0013	0.0839	0.0001
4	38.9	3859	0.0020	0.0839	0.0002
5	38.9	4011	0.1966	0.1049	0.0206

FIGURE B-57

ELT SCENARIO 4  
 SORTIE NUMBER 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD TO FAIR  
 AVERAGE SEA STATE 4.0

SELECTED CRAFT:

WMEC210  
 DISPLACEMENT 1000 TONS  
 DESIGN SPEED 17 KNOTS  
 FUEL FRACTION 0.70

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
		1			
STEAM	*INTERDICT	150201 150204 150202	9.4	1066	0.02
		4			
SENSOR SEARCH	*SEARCH FOR SHIP : FOUND	130101 130102	2.2	219	0.03
		7			
IDENTIFY	*IDENTIFY CRAFT	40201 40203 40202	0.6	59	0.03
		10			
INSPECT	*LAUNCH SMALL BOAT	50201			
	*INSPECTION	50203	0.4	20	0.80
	*RETRIEVE SMALL BOAT	50204 50202	2.0 0.4	93 20	1.00 0.80
		12			
		13			
STEAM	*TRANSIT	150401 150402	22.9	2287	0.03
		2			
TIME TO COMPLETE SORTIE (HRS)			37.9		
FUEL CONSUMED IN SORTIE (GALS)				3767	

SORTIE PROBABILITY OF SUCCESS 0.0146  
 SORTIE FREQUENCY OF OCCURRENCE 0.0012

FIGURE B-58

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.50  
 VISIBILITY GOOD TO FAIR  
 AVERAGE SEA STATE 4.0

SELECTED CRAFT:

WMEC210  
 DISPLACEMENT 1000 TONS  
 DESIGN SPEED 17 KNOTS  
 FUEL FRACTION 0.70

FRACTION OF SCENARIO COMPLETED 0.0012

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FUEL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	37.9	3767	0.0012	0.0146	0.0000

FIGURE B-59

ELT SCENARIO 4  
 SORTIE NUMBER 6

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 3.0

SELECTED CRAFT:

WMEC270  
 DISPLACEMENT 1780 TONS  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.91

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
		1			
STEAM	*INTERDICT	150201			
		150204	7.2	2518	0.37
		150202			
		4			
SENSOR SEARCH	*SEARCH FOR SHIP : FOUND	130101			
		130102	2.1	321	0.25
		7			
IDENTIFY	*IDENTIFY CRAFT	40201			
		40203	0.5	83	0.25
		40202			
		10			
INSPECT	*LAUNCH SMALL BOAT	50201			
		50203	0.5	33	0.80
	*INSPECTION	50204	2.0	125	1.00
	*RETRIEVE SMALL BOAT	50202	0.5	33	0.80
		12			
SEIZE	*SEIZE	120201			
		120203	1.0	62	1.00
	*ESCORT	120202	22.5	3417	0.25
		2			

TIME TO COMPLETE SORTIE (HRS)

36.3

FUEL CONSUMED IN SORTIE (GALS)

6597

SORTIE PROBABILITY OF SUCCESS

0.2027

SORTIE FREQUENCY OF OCCURRENCE

0.0019

FIGURE B-60

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 3.0

SELECTED CRAFT:

WMEC270  
 DISPLACEMENT 1780 TONS  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.91

FRACTION OF SCENARIO COMPLETED 0.7848

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FULL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	43.9	6359	0.0720	0.2027	0.0146
2	39.1	5727	0.4536	0.2027	0.0920
3	43.5	6232	0.0080	0.2027	0.0016
4	47.8	7518	0.0008	0.2027	0.0002
5	38.7	5700	0.0504	0.2027	0.0102
6	36.5	5397	0.0019	0.2027	0.0004
7	27.9	5095	0.0026	0.2027	0.0006
8	34.6	4897	0.1953	0.2534	0.0495

FIGURE B-61

ELT SCENARIO 4  
SORTIE NUMBER 2

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
RANGE FRACTION 0.90  
VISIBILITY GOOD TO FAIR  
AVERAGE SEA STATE 4.0

SELECTED CRAFT:

WMEC270  
DISPLACEMENT 1780 TONS  
DESIGN SPEED 20 KNOTS  
FUEL FRACTION 0.91

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
		1			
STEAM	*INTERDICT	150201			
		150204	8.3	2730	0.15
		150202			
		4			
SENSOR SEARCH		130101			
	*SEARCH FOR SHIP : FOUND	130102	2.2	329	0.08
		7			
IDENTIFY		40201			
	*IDENTIFY CRAFT	40203	0.6	91	0.08
		40202			
		10			
INSPECT		50201			
	*LAUNCH SMALL BOAT	50203	0.5	33	0.80
	*INSPECTION	50204	2.0	125	1.00
	*RETRIEVE SMALL BOAT	50202	0.5	33	0.80
		12			
		13			
STEAM		150401			
	*TRANSIT	150402	19.9	3045	0.08
		2			
TIME TO COMPLETE SORTIE (HRS)			34.1		
FUEL CONSUMED IN SORTIE (GALS)				6389	
SORTIE PROBABILITY OF SUCCESS					0.0656
SORTIE FREQUENCY OF OCCURRENCE					0.0017

FIGURE B-62

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD TO FAIR  
 AVERAGE SEA STATE 4.0

SELECTED CRAFT:

WMEC270  
 DISPLACEMENT 1780 TONS  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.91

FRACTION OF SCENARIO COMPLETED 0.2000

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FUEL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	45.1	7974	0.0011	0.0656	0.0001
2	34.1	6389	0.0017	0.0656	0.0001
3	43.2	8061	0.1972	0.0821	0.0162

FIGURE B-63

ELT SCENARIO 4  
 SORTIE NUMBER 6

OPERATIONAL REQUIREMENTS:

SELECTED CRAFT:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 3.0

SWATH  
 DISPLACEMENT 2000 TONS  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.50

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
			1		
STEAM		150101			
	*TRANSIT	150102	8.5	2797	1.00
			3		
SEARCH FLEET		110101			
	*SEARCH FOR FLEET	110102	2.5	839	1.00
			5		
IDENTIFY		40101			
	*IDENTIFY FLEET	40102	1.8	589	1.00
			5		
INSPECT		50101			
	*BOARD	50105	0.3	41	0.80
	*INSPECTION	50106	1.5	209	1.00
	*RETRIEVE BOARDING PARTY	50102	0.3	41	0.80
			11		
SEIZE		120101			
	*SEIZE	120103	1.0	139	1.00
	*ESLORT	120102	10.6	3497	1.00
			2		

TIME TO COMPLETE SORTIE (HRS) 26.5

FUEL CONSUMED IN SORTIE (GALS) 8157

SORTIE PROBABILITY OF SUCCESS 0.8000

SORTIE FREQUENCY OF OCCURRENCE 0.0080

FIGURE B-64

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 3.0

SELECTED CRAFT:

SWATH  
 DISPLACEMENT 2000 TONS  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.50

FRACTION OF SCENARIO COMPLETED 1.0000

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FULL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	26.9	8213	0.0720	0.8000	0.0576
2	36.9	11677	0.0127	0.8000	0.0102
3	31.7	10139	0.0191	0.8000	0.0152
4	35.7	12017	0.1626	0.8000	0.1301
5	23.8	7573	0.4536	0.8000	0.3629
6	26.5	8157	0.0080	0.8000	0.0064
7	36.5	11622	0.0014	0.8000	0.0011
8	31.3	10083	0.0021	0.8000	0.0017
9	35.3	11961	0.0181	0.8000	0.0145
10	23.4	7317	0.0504	0.8000	0.0403
11	24.6	8789	0.0052	0.8000	0.0042
12	19.3	7251	0.0078	0.8000	0.0063
13	23.0	9035	0.1870	1.0000	0.1870

FIGURE B-65

LLT SCENARIO 4  
SORTIE NUMBER 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
RANGE FRACTION 0.90  
VISIBILITY GOOD TO FAIR  
AVERAGE SEA STATE 4.0

SELECTED CRAFT:

SWATH  
DISPLACEMENT 2000 TONS  
DESIGN SPEED 20 KNOTS  
FUEL FRACTION 0.50

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
		1			
STEAM	*TRANSIT	150101 150102	8.6	2681	1.00
		3			
SEARCH FLEET	*SEARCH FOR FLEET	110101 110102	2.6	864	1.00
		5			
IDENTIFY	*IDENTIFY FLEET	40101 40102	1.9	639	1.00
		9			
INSPECT	*LAUNCH SMALL BOAT	50101 50103	0.5	69	0.80
	*INSPECTION	50104	1.5	209	1.00
	*RETRIEVE SMALL BOAT	50102	0.5	69	0.80
		11			
		15			
STEAM	*INTERDICT	150301 150304 150302	2.8	1634	1.00
		4			
SENSOR SEARCH	*SEARCH FOR SHIP : FAILED	930101 930109	5.0	1671	1.00
		8			
STEAM	*TRANSIT	150501 150502	12.9	4322	1.00
		2			
TIME TO COMPLETE SORTIE (HRS)			36.4		
FUEL CONSUMED IN SORTIE (GALS)				12364	
SORTIE PROBABILITY OF SUCCESS					0.8000
SORTIE FREQUENCY OF OCCURRENCE					0.1657

FIGURE B-66

\*\*\*\*\* SORTIL SUMMARY \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD TO FAIR  
 AVERAGE SEA STATE 4.0

SELECTED CRAFT:

SWATH  
 DISPLACEMENT 2000 TONS  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.50

FRACTION OF SCENARIO COMPLETED 1.0000

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FUEL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	27.4	8477	0.0720	0.8000	0.0576
2	37.7	12041	0.0115	0.8000	0.0092
3	32.4	10460	0.0172	0.8000	0.0138
4	36.4	12324	0.1657	0.8000	0.1326
5	24.2	7217	0.4536	0.8000	0.3629
6	27.0	8421	0.0080	0.8000	0.0064
7	37.3	11985	0.0013	0.8000	0.0010
8	32.0	10404	0.0019	0.8000	0.0015
9	36.0	12308	0.0184	0.8000	0.0147
10	23.8	7561	0.0504	0.8000	0.0403
11	25.2	9033	0.0046	0.8000	0.0037
12	19.9	7452	0.0069	0.8000	0.0056
13	23.6	9263	0.1884	1.0000	0.1884

FIGURE B-67

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:	SELECTED CRAFT:
MAXIMUM DURATION 48.0 HOURS	PLANING CRAFT
RANGE FRACTION 0.90	DISPLACEMENT 96 TONS
VISIBILITY GOOD	DESIGN SPEED 40 KNOTS
AVERAGE SEA STATE 3.0	FUEL FRACTION 0.50

PERCENT OF SCENARIO COMPLETED 89.1

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO 0.44

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE 14.2 HRS

FUEL CONSUMED IN AVERAGE SORTIE 4526.4 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
BRD	0.05	BOARD
INS	0.41	INSPECTION
LSE	0.37	LAUNCH SMALL BOAT
RBF	0.05	RETRIEVE BOARDING PARTY
RSB	0.37	RETRIEVE SMALL BOAT
SZE	0.07	SEIZE

REDUCED SPEED:  
NO TASKS

TASK CODE	TIMES COMPLETED	TASK NAME
CRUISE SPEED:		
ESC	0.07	ESCORT
IDC	0.07	IDENTIFY CRAFT
IDF	0.05	IDENTIFY FLEET
SFL	0.05	SEARCH FOR FLEET
SSH	0.07	SEARCH FOR SHIP: FOUND
SSF	0.05	SEARCH FOR SHIP: FAILED
TRA	0.70	TRANSIT

TASK CODE	TIMES COMPLETED	TASK NAME
FLANK SPEED:		
INT	0.15	INTERDICT

FIGURE B-68

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD TO FAIR  
 AVERAGE SEA STATE 4.0

SELECTED CRAFT:

PLANING CRAFT  
 DISPLACEMENT 96 TONS  
 DESIGN SPEED 40 KNOTS  
 FUEL FRACTION 0.50

PERCENT OF SCENARIO COMPLETED 82.5

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO 0.19

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE 16.2 HRS  
 FUEL CONSUMED IN AVERAGE SORTIE 4605.0 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
BRD	0.01	BOARD
INS	0.18	INSPECTION
LSB	0.14	LAUNCH SMALL BOAT
REF	0.01	RETRIEVE BOARDING PARTY
RSE	0.14	RETRIEVE SMALL BOAT
SZE	0.02	SEIZE
REDUCED SPEED: NO TASKS		
CRUISE SPEED:		
LSC	0.02	ESCORT
IDC	0.02	IDENTIFY CRAFT
IDF	0.14	IDENTIFY FLEET
SFL	0.14	SEARCH FOR FLEET
SSH	0.02	SEARCH FOR SHIP: FOUND
SSF	0.04	SEARCH FOR SHIP: FAILED
TRA	0.31	TRANSIT
FLANK SPEED:		
INT	0.05	INTERDICT

FIGURE B-69

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 3.0

SELECTED CRAFT:

HYDROFOIL-SUBMERGED FOIL  
 DISPLACEMENT 132 TONS  
 DESIGN SPEED 50 KNOTS  
 FUEL FRACTION 0.50

PERCENT OF SCENARIO COMPLETED 94.9

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO 0.80

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE 12.2 HRS  
 FUEL CONSUMED IN AVERAGE SORTIE 3961.5 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
BRG	0.06	BOARD
INS	0.02	INSPECTION
LSE	0.76	LAUNCH SMALL BOAT
RBP	0.06	RETRIEVE BOARDING PARTY
RSE	0.75	RETRIEVE SMALL BOAT
SZE	0.15	SEIZE

REDUCED SPEED:  
 NO TASKS

CRUISE SELED:		
ESC	0.15	ESCORT
IDC	0.25	IDENTIFY CRAFT
IFP	0.02	IDENTIFY FLEET
SFL	0.02	SEARCH FOR FLEET
SSH	0.25	SEARCH FOR SHIP: FOUND
SSH	0.11	SEARCH FOR SHIP: FAILED
TRA	1.27	TRANSIT

FLANK SPEED:  
 INT 0.02 INTERDICT

FIGURE B-70

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD TO FAIR  
 AVERAGE SEA STATE 4.0

SELECTED CRAFT:

HYDROFOIL-SUBMERGED FOIL  
 DISPLACEMENT 132 TONS  
 DESIGN SPEED 50 KNOTS  
 FUEL FRACTION 0.50

PERCENT OF SCENARIO COMPLETED 89.7

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO 0.52

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE 14.1 HRS

FUEL CONSUMED IN AVERAGE SORTIE 4142.2 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
OP. SCENE:		
BRD	0.05	BOARD
INS	0.46	INSPECTION
LSB	0.42	LAUNCH SMALL BOAT
RBP	0.05	RETRIEVE BOARDING PARTY
RSE	0.42	RETRIEVE SMALL BOAT
SZE	0.05	SEIZE

REDUCED SPEED:

NO TASKS

CRUISE SPEED:

ESC	0.05	ESCORT
IDC	0.09	IDENTIFY CRAFT
IDF	0.35	IDENTIFY FLEET
SFL	0.35	SEARCH FOR FLEET
SSH	0.09	SEARCH FOR SHIP: FOUND
SSF	0.12	SEARCH FOR SHIP: FAILED
TRA	0.82	TRANSIT

FLANK SPEED:

INT	0.21	INTERDICT
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FIGURE B-71

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 3.0

SELECTED CRAFT:

AIR CUSHION VEHICLE- LOW P/L  
 DISPLACEMENT 200 TONS  
 DESIGN SPEED 60 KNOTS  
 FUEL FRACTION 0.50

PERCENT OF SCENARIO COMPLETED 57.4

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO 0.44

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE 9.8 HRS

FUEL CONSUMED IN AVERAGE SORTIE 9360.8 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
BRD	0.05	BOARD
INS	0.44	INSPECTION
LSE	0.40	LAUNCH SMALL BOAT
RDP	0.05	RETRIEVE BOARDING PARTY
RSB	0.40	RETRIEVE SMALL BOAT
SZE	0.01	SEIZE

REDUCED SPEED:  
 NO TASKS

CRUISE SPEED:

LSC	0.01	ESCORT
IC	0.05	IDENTIFY CRAFT
IF	0.40	IDENTIFY FLEET
SFL	0.40	SEARCH FOR FLEET
SSH	0.05	SEARCH FOR SHIP: FOUND
TR	0.30	TRANSIT

FLANK SPEED:

IT	0.05	INTERDICT
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FIGURE B-72

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
RANGE FRACTION 0.90  
VISIBILITY GOOD TO FAIR  
AVERAGE SEA STATE 4.0

SELECTED CRAFT:

AIR CUSHION VEHICLE- LOW P/L  
DISPLACEMENT 200 TONS  
DESIGN SPEED 60 KNOTS  
FUEL FRACTION 0.50

NO SORTIES CAN BE COMPLETED

FIGURE B-73

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.50  
 VISIBILITY 6000  
 AVERAGE SEA STATE 3.0

SELECTED CRAFT:

AMEC210  
 DISPLACEMENT 1000 TONS  
 DESIGN SPEED 17 KNOTS  
 FUEL FRACTION 0.70

PERCENT OF SCENARIO COMPLETED 70.4

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO 0.07

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE 42.5 HRS  
 FUEL CONSUMED IN AVERAGE SORTIE 4199.1 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
BRD	0.01	BOARD
INS	0.05	INSPECTION
LSB	0.05	LAUNCH SMALL BOAT
RBP	0.01	RETRIEVE BOARDING PARTY
RSB	0.05	RETRIEVE SMALL BOAT
SZE	0.00	SEIZE
REDUCED SPEED: NO TASKS		
CRUISE SPEED:		
ESC	0.00	ESCORT
IDC	0.00	IDENTIFY CRAFT
IDF	0.05	IDENTIFY FLEET
SFL	0.05	SEARCH FOR FLEET
SSH	0.00	SEARCH FOR SHIP: FOUND
SSF	0.02	SEARCH FOR SHIP: FAILED
TRA	0.12	TRANSIT
FLANK SPEED:		
INT	0.02	INTERDICT

FIGURE B-74

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
RANGE FRACTION 0.90  
VISIBILITY GOOD TO FAIR  
AVERAGE SEA STATE 4.0

SELECTED CRAFT:

WMEC210  
DISPLACEMENT 1000 TONS  
DESIGN SPEED 17 KNOTS  
FUEL FRACTION 0.70

PERCENT OF SCENARIO COMPLETED 0.1

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO 0.00

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE 37.9 HRS  
FUEL CONSUMED IN AVERAGE SORTIE 3767.6 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
INS	0.00	INSPECTION
LSB	0.00	LAUNCH SMALL BOAT
RSE	0.00	RETRIEVE SMALL BOAT
REDUCE SPEED:		
NO TASKS		
CRUISE SPEED:		
IDC	0.00	IDENTIFY CRAFT
SSH	0.00	SEARCH FOR SHIP: FOUND
TRA	0.00	TRANSIT
FLANK SPEED:		
INT	0.00	INTERDICT

FIGURE B-75

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 3.0

SELECTED CRAFT:

WMEC270  
 DISPLACEMENT 1780 TONS  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.91

PERCENT OF SCENARIO COMPLETED 78.5

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO 0.17

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE 58.2 HRS  
 FUEL CONSUMED IN AVERAGE SORTIE 6072.7 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
BRD	0.01	BOARD
INS	0.12	INSPECTION
LSE	0.11	LAUNCH SMALL BOAT
REF	0.01	RETRIEVE BOARDING PARTY
RSC	0.11	RETRIEVE SMALL BOAT
SZE	0.02	SEIZE
REDUCED SPEED:		
NO TASKS		
CRUISE SPEED:		
ESC	0.02	ESCORT
IDC	0.00	IDENTIFY CRAFT
IFP	0.12	IDENTIFY FLEET
SFL	0.12	SEARCH FOR FLEET
SSH	0.00	SEARCH FOR SHIP: FOUND
SSF	0.00	SEARCH FOR SHIP: FAILED
TRA	0.27	TRANSIT
FLANK SPEED:		
INT	0.00	INTERDICT

FIGURE B-76

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD TO FAIR  
 AVERAGE SEA STATE 4.0

SELECTED CRAFT:

WMEC270  
 DISPLACEMENT 1780 TONS  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.91

PERCENT OF SCENARIO COMPLETED 20.0

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO 0.02

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE 43.2 HRS  
 FUEL CONSUMED IN AVERAGE SORTIE 8049.5 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
INS	0.00	INSPECTION
LSE	0.00	LAUNCH SMALL BOAT
RSE	0.00	RETRIEVE SMALL BOAT
SZE	0.00	SEIZE
REDUCED SPEED:		
NO TASKS		
CRUISE SPEED:		
ESC	0.00	ESCORT
IDC	0.00	IDENTIFY CRAFT
SSH	0.00	SEARCH FOR SHIP: FOUND
SOF	0.02	SEARCH FOR SHIP: FAILED
TNA	0.02	TRANSIT
FLANK SPEED:		
INT	0.02	INTERDICT

FIGURE B-77

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY CODE  
 AVERAGE SEA STATE 3.0

SELECTED CRAFT:

SWATH  
 DISPLACEMENT 2000 TONS  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.50

PERCENT OF SCENARIO COMPLETED 100.0

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO 0.84

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE 26.2 HRS  
 FUEL CONSUMED IN AVERAGE SORTIE 8726.4 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
CR. SCENE:		
CRK	0.00	BOARD
INS	0.83	INSPECTION
LSB	0.81	LAUNCH SMALL BOAT
RBP	0.80	RETRIEVE BOARDING PARTY
RSE	0.81	RETRIEVE SMALL BOAT
SZE	0.00	SEIZE

REDUCED SPEED:  
 NO TASKS

TASK CODE	TIMES COMPLETED	TASK NAME
CRUISE SPEED:		
ESC	0.00	ESCORT
IDC	0.04	IDENTIFY CRAFT
IDF	0.64	IDENTIFY FLEET
SFL	0.64	SEARCH FOR FLEET
SSH	0.04	SEARCH FOR SHIP: FOUND
SSF	0.30	SEARCH FOR SHIP: FAILED
TRA	1.40	TRANSIT

TASK CODE	TIMES COMPLETED	TASK NAME
FLANK SPEED:		
INT	0.37	INTERDICT

FIGURE B-78

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD TO FAIR  
 AVERAGE SEA STATE 4.0

SELECTED CRAFT:

SWATH  
 DISPLACEMENT 2000 TONS  
 DESIGN SPEED 20 KNOTS  
 FUEL FRACTION 0.50

PERCENT OF SCENARIO COMPLETED 100.0

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO 0.84

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE 26.7 HRS  
 FUEL CONSUMED IN AVERAGE SORTIE 8995.1 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
BRL	0.06	BOARD
INS	0.67	INSPECTION
LSP	0.61	LAUNCH SMALL BOAT
REP	0.06	RETRIEVE BOARDING PARTY
RSE	0.61	RETRIEVE SMALL BOAT
SZE	0.06	SEIZE
REDUCED SPEED:		
NO TASKS		
CRUISE SPEED:		
ESC	0.06	ESCORT
IDC	0.03	IDENTIFY CRAFT
IDF	0.64	IDENTIFY FLEET
SFL	0.64	SEARCH FOR FLEET
SSH	0.03	SEARCH FOR SHIP: FOUND
SSH	0.34	SEARCH FOR SHIP: FAILED
TRA	1.40	TRANSIT
FLANK SPEED:		
INT	0.37	INTERDICT

FIGURE B-79

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
RANGE FRACTION 0.90  
VISIBILITY GOOD  
AVERAGE SEA STATE 3.0

SELECTED CRAFT:

PLANING CRAFT  
DISPLACEMENT 96 TONS  
DESIGN SPEED 40 KNOTS  
FUEL FRACTION 0.50

IMPORTANT TASKS COMPLETED IN 50 DAYS OF OPERATION

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
INS	20	INSPECTION
SZE	5	SEIZE
REDUCED SPEED: NO IMPORTANT TASKS SPECIFIED		
CRUISE SPEED:		
IDC	4	IDENTIFY CRAFT
IDF	17	IDENTIFY FLEET
FLANK SPEED: NO IMPORTANT TASKS SPECIFIED		

FIGURE B-80

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
RANGE FRACTION 0.90  
VISIBILITY GOOD TO FAIR  
AVERAGE SEA STATE 4.0

SELECTED CRAFT:

PLANING CRAFT  
DISPLACEMENT 96 TONS  
DESIGN SPEED 40 KNOTS  
FUEL FRACTION 0.50

IMPORTANT TASKS COMPLETED IN 50 DAYS OF OPERATION

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
INS	8	INSPECTION
SEI	1	SEIZE

REDUCED SPEED:  
NO IMPORTANT TASKS SPECIFIED

CRUISE SPEED:

IDC	1	IDENTIFY CRAFT
IDF	7	IDENTIFY FLEET

FLANK SPEED:  
NO IMPORTANT TASKS SPECIFIED

FIGURE B-81

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

LLT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
RANGE FRACTION 0.90  
VISIBILITY GOOD  
AVERAGE SEA STATE 3.0

SELECTED CRAFT:

HYDROFOIL-SUBMERGED FOIL  
DISPLACEMENT 132 TONS  
DESIGN SPEED 50 KNOTS  
FUEL FRACTION 0.50

IMPORTANT TASKS COMPLETED IN 50 DAYS OF OPERATION

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
INS	41	INSPECTION
SEZ	7	SEIZE
REDUCED SPEED:		
NO IMPORTANT TASKS SPECIFIED		
CRUISE SPEED:		
IDC	10	IDENTIFY CRAFT
ILF	31	IDENTIFY FLEET
FLANK SPEED:		
NO IMPORTANT TASKS SPECIFIED		

FIGURE B-82

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
RANGE FRACTION 0.90  
VISIBILITY GOOD TO FAIR  
AVERAGE SEA STATE 4.0

SELECTED CRAFT:

HYDROFOIL-SUBMERGED FOIL  
DISPLACEMENT 132 TONS  
DESIGN SPEED 50 KNOTS  
FUEL FRACTION 0.50

IMPORTANT TASKS COMPLETED IN 50 DAYS OF OPERATION

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
INS	25	INSPECTION
SZE	4	SEIZE
REDUCED SPEED: NO IMPORTANT TASKS SPECIFIED		
CRUISE SPEED:		
IDC	4	IDENTIFY CRAFT
IDF	19	IDENTIFY FLEET
FLANK SPEED: NO IMPORTANT TASKS SPECIFIED		

FIGURE B-83

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
RANGE FRACTION 0.90  
VISIBILITY GOOD  
AVERAGE SEA STATE 3.0

SELECTED CRAFT:

AIR CUSHION VEHICLE- LOW P/L  
DISPLACEMENT 200 TONS  
DESIGN SPEED 60 KNOTS  
FUEL FRACTION 0.50

IMPORTANT TASKS COMPLETED IN 50 DAYS OF OPERATION

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
INS	22	INSPECTION
SZE	3	SEIZE
REDUCED SPEED: NO IMPORTANT TASKS SPECIFIED		
CRUISE SPEED:		
IDC	2	IDENTIFY CRAFT
ILF	20	IDENTIFY FLEET
FLANK SPEED: NO IMPORTANT TASKS SPECIFIED		

FIGURE B-84

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

ELT SCENARIO - 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
RANGE FRACTION 0.90  
VISIBILITY GOOD TO FAIR  
AVERAGE SEA STATE 4.0

SELECTED CRAFT:

AIR CUSHION VEHICLE- LOW P/L  
DISPLACEMENT 200 TONS  
DESIGN SPEED 60 KNOTS  
FUEL FRACTION 0.50

NO SORTIES CAN BE COMPLETED

FIGURE B-85

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
RANGE FRACTION 0.50  
VISIBILITY GOOD  
AVERAGE SEA STATE 3.0

SELECTED CRAFT:

WMEC210  
DISPLACEMENT 1000 TONS  
DESIGN SPEED 17 KNOTS  
FUEL FRACTION 0.70

IMPORTANT TASKS COMPLETED IN 50 DAYS OF OPERATION

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
INS	5	INSPECTION
SZL	5	SEIZL
REDUCED SPEED:		
NO IMPORTANT TASKS SPECIFIED		
CRUISE SPEED:		
IDC	5	IDENTIFY CRAFT
IFL	5	IDENTIFY FLEET
FLANK SPEED:		
NO IMPORTANT TASKS SPECIFIED		

FIGURE B-86

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
RANGE FRACTION 0.90  
VISIBILITY GOOD TO FAIR  
AVERAGE SEA STATE 4.0

SELECTED CRAFT:

WMEC210  
DISPLACEMENT 1000 TONS  
DESIGN SPEED 17 KNOTS  
FUEL FRACTION 0.70

IMPORTANT TASKS COMPLETED IN 50 DAYS OF OPERATION

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
INS	0	INSPECTION
SZE	0	SEIZE
REDUCED SPEED: NO IMPORTANT TASKS SPECIFIED		
CRUISE SPEED:		
IDC	0	IDENTIFY CRAFT
IDF	0	IDENTIFY FLEET
FLANK SPEED: NO IMPORTANT TASKS SPECIFIED		

FIGURE B-87

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
RANGE FRACTION 0.90  
VISIBILITY GOOD  
AVERAGE SEA STATE 3.0

SELECTED CRAFT:

WMEC270  
DISPLACEMENT 1780 TONS  
DESIGN SPEED 29 KNOTS  
FUEL FRACTION 0.91

IMPORTANT TASKS COMPLETED IN 50 DAYS OF OPERATION

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
INS	6	INSPECTION
SZE	1	SEIZE
REDUCED SPEED: NO IMPORTANT TASKS SPECIFIED		
CRUISE SPEED:		
IDC	0	IDENTIFY CRAFT
ILF	0	IDENTIFY FLEET
FLANK SPEED: NO IMPORTANT TASKS SPECIFIED		

FIGURE B-88

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
RANGE FRACTION 0.90  
VISIBILITY GOOD TO FAIR  
AVERAGE SEA STATE 4.0

SELECTED CRAFT:

WMEC270  
DISPLACEMENT 1780 TONS  
DESIGN SPEED 20 KNOTS  
FUEL FRACTION 0.91

IMPORTANT TASKS COMPLETED IN 50 DAYS OF OPERATION

TASK CODE	TIMES COMPLETED	TASK NAME
UT. SCENE:		
INS	0	INSPECTION
SEI	0	SEIZE
REDUCED SPEED:		
NO IMPORTANT TASKS SPECIFIED		
CRUISE SPEED:		
IDC	0	IDENTIFY CRAFT
IDF	0	IDENTIFY FLEET
FLANK SPEED:		
NO IMPORTANT TASKS SPECIFIED		

FIGURE B-89

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
RANGE FRACTION 0.50  
VISIBILITY 3000  
AVERAGE SEA STATE 3.0

SELECTED CRAFT:

SWATH  
DISPLACEMENT 2000 TONS  
DESIGN SPEED 20 KNOTS  
FUEL FRACTION 0.50

IMPORTANT TASKS COMPLETED IN 50 DAYS OF OPERATION

TASK CODE	TIMES COMPLETED	TASK NAME
--------------	--------------------	--------------

ON SCENE:

INS	34	INSPECTION
SZL	4	SEIZE

REDUCE SPEED:

NO IMPORTANT TASKS SPECIFIED

CRUISE SPEED:

IDC	2	IDENTIFY CRAFT
IDF	52	IDENTIFY FLEET

FLANK SPEED:

NO IMPORTANT TASKS SPECIFIED

FIGURE B-90

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

ELT SCENARIO 4

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 48.0 HOURS  
RANGE FRACTION 0.90  
VISIBILITY GOOD TO FAIR  
AVERAGE SEA STATE 4.0

SELECTED CRAFT:

SWATH  
DISPLACEMENT 2000 TONS  
DESIGN SPEED 20 KNOTS  
FUEL FRACTION 0.50

IMPORTANT TASKS COMPLETED IN 50 DAYS OF OPERATION

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
INS	34	INSPECTION
SZL	4	SEIZL
REDUCED SPEED: NO IMPORTANT TASKS SPECIFIED		
CRUISE SPEED:		
IDC	2	IDENTIFY CRAFT
IDF	32	IDENTIFY FLEET
FLANK SPEED: NO IMPORTANT TASKS SPECIFIED		

FIGURE B-91

# PSS-MEP SCENARIO FIGHT FIRE GROUP

GROUP NUMBER 3

OCCURRENCE 1

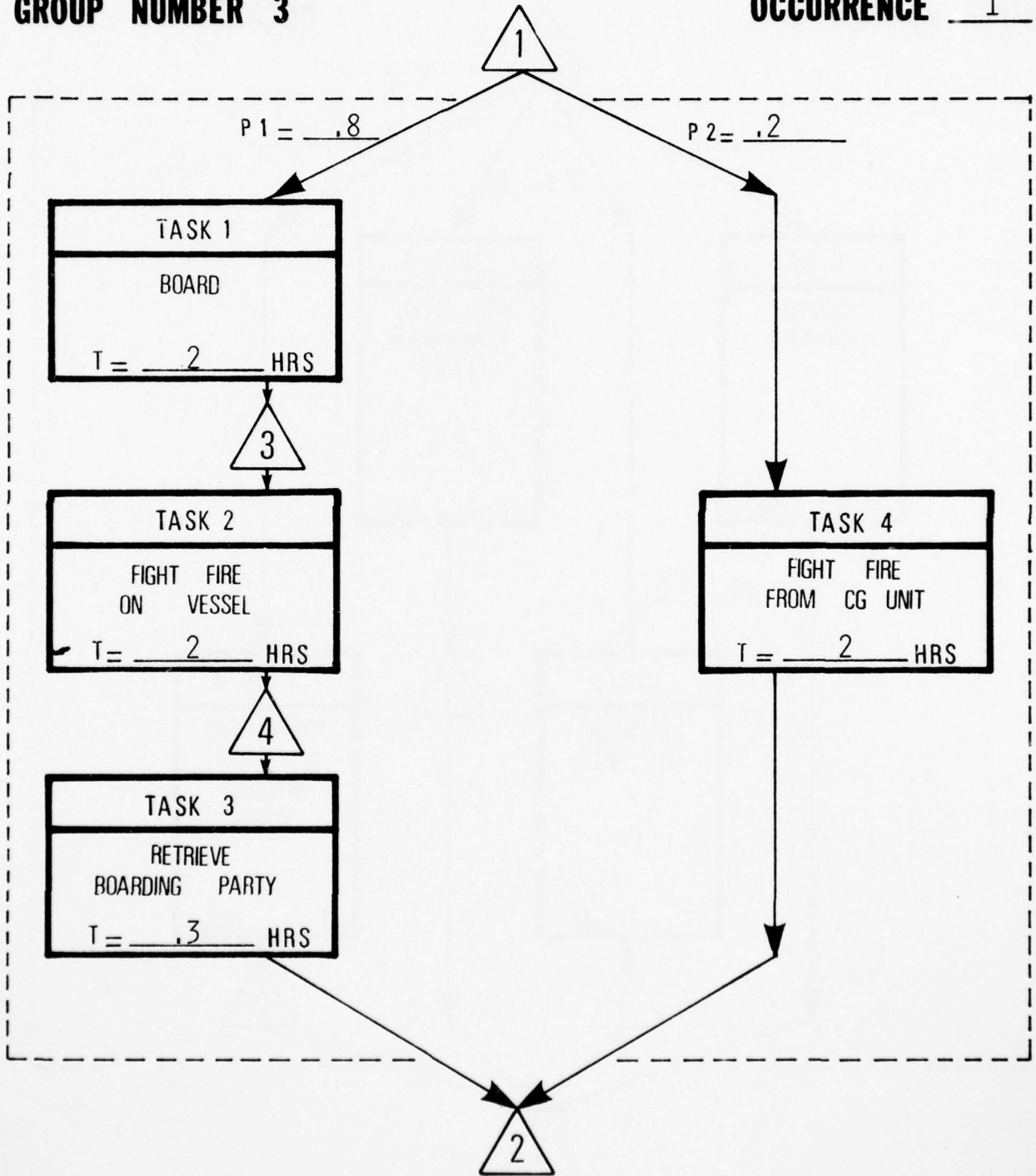


FIGURE C-1

# PSS-MEP SCENARIO MONITOR GROUP

GROUP NUMBER 6

OCCURRENCE 1

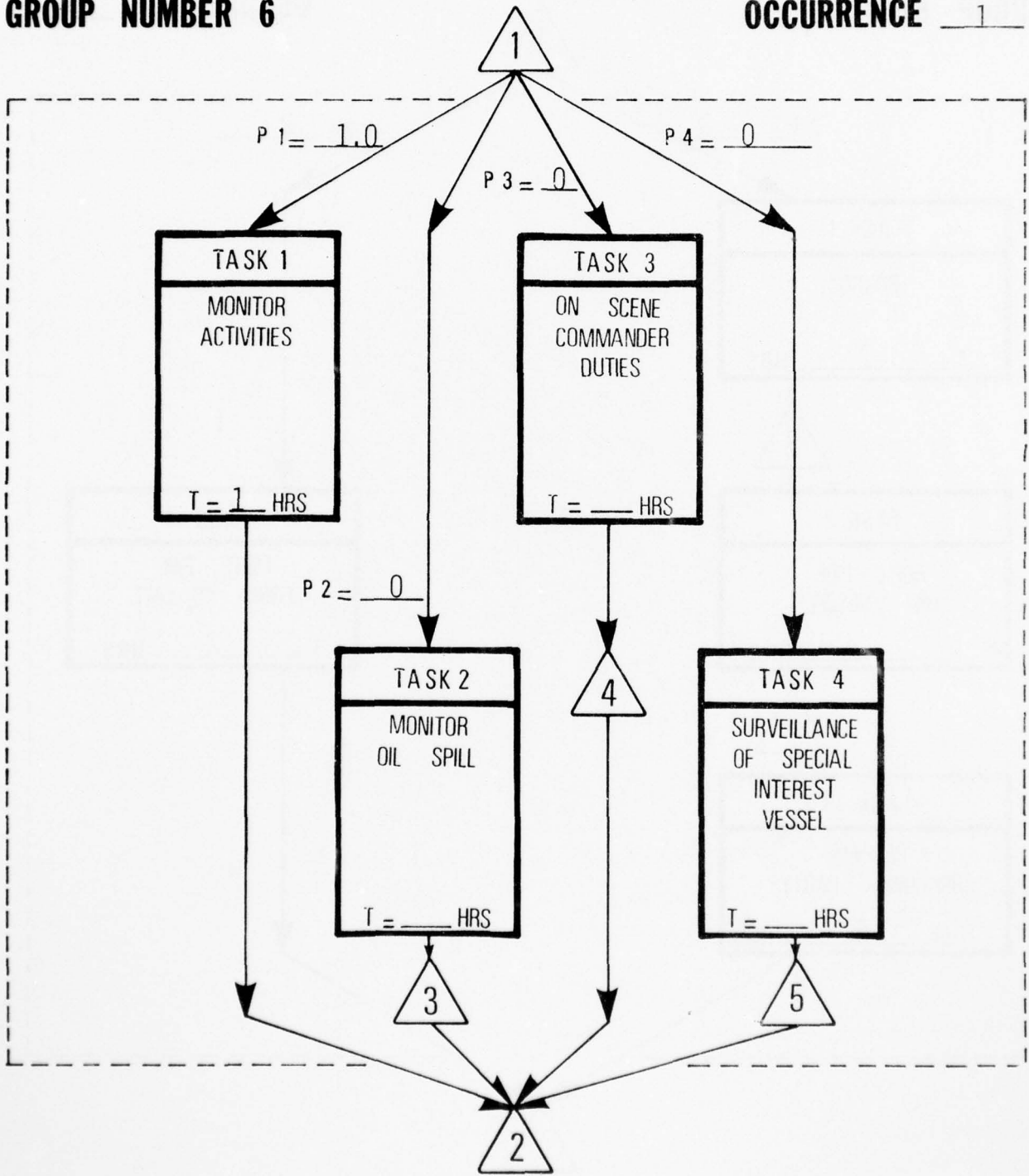


FIGURE C-2

# PSS-MEP SCENARIO MONITOR GROUP

GROUP NUMBER 6

OCCURRENCE 02

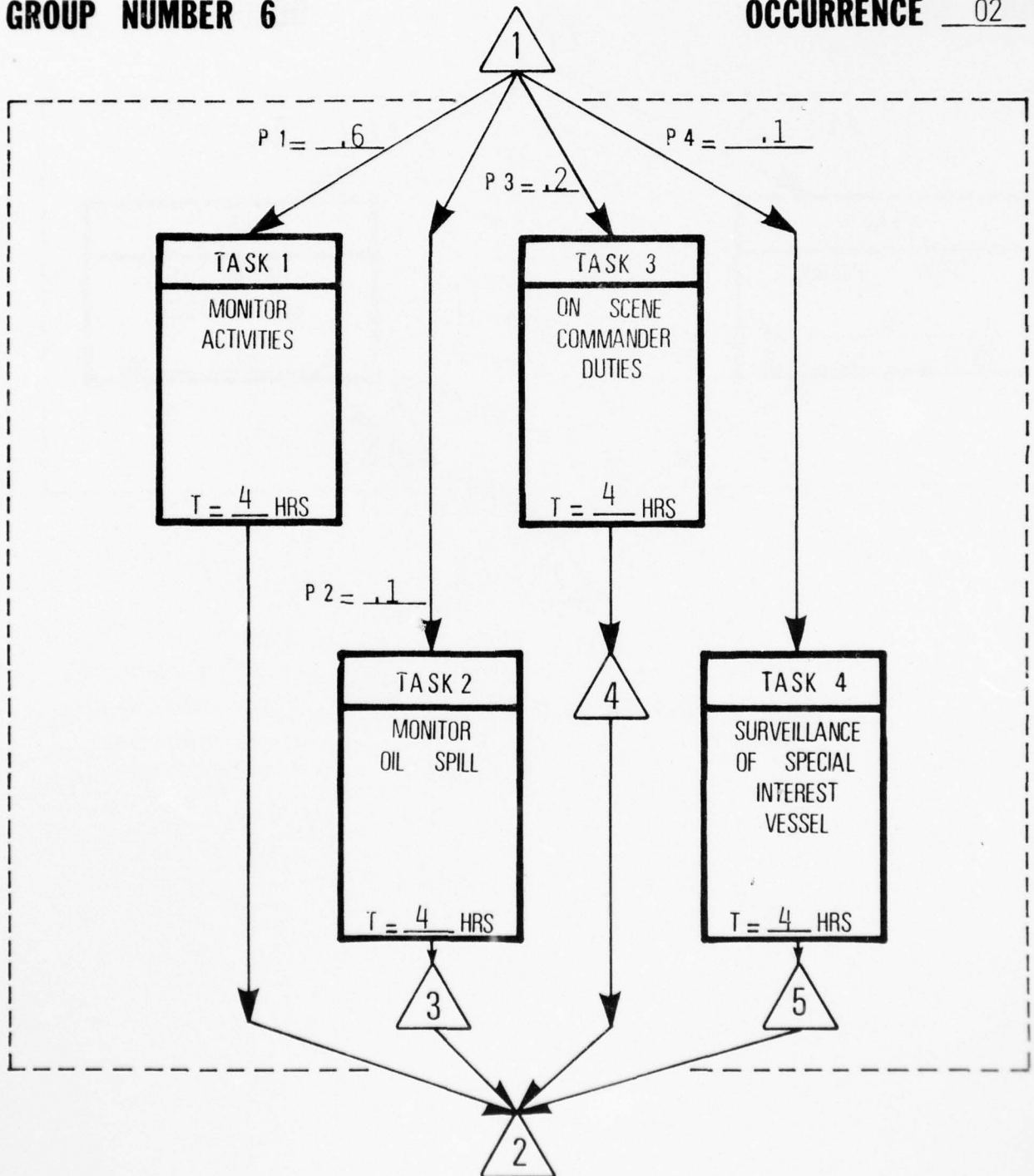


FIGURE C-3

AD-A051 393

COAST GUARD RESEARCH AND DEVELOPMENT CENTER GROTON CONN F/G 13/10  
CUTTER RESOURCE EFFECTIVENESS EVALUATION MODEL. VOLUME III. UTI--ETC(U)

JUN 77 A PASSERA, D S PRERAU, C W PRITCHETT

CGR/DC-17/77

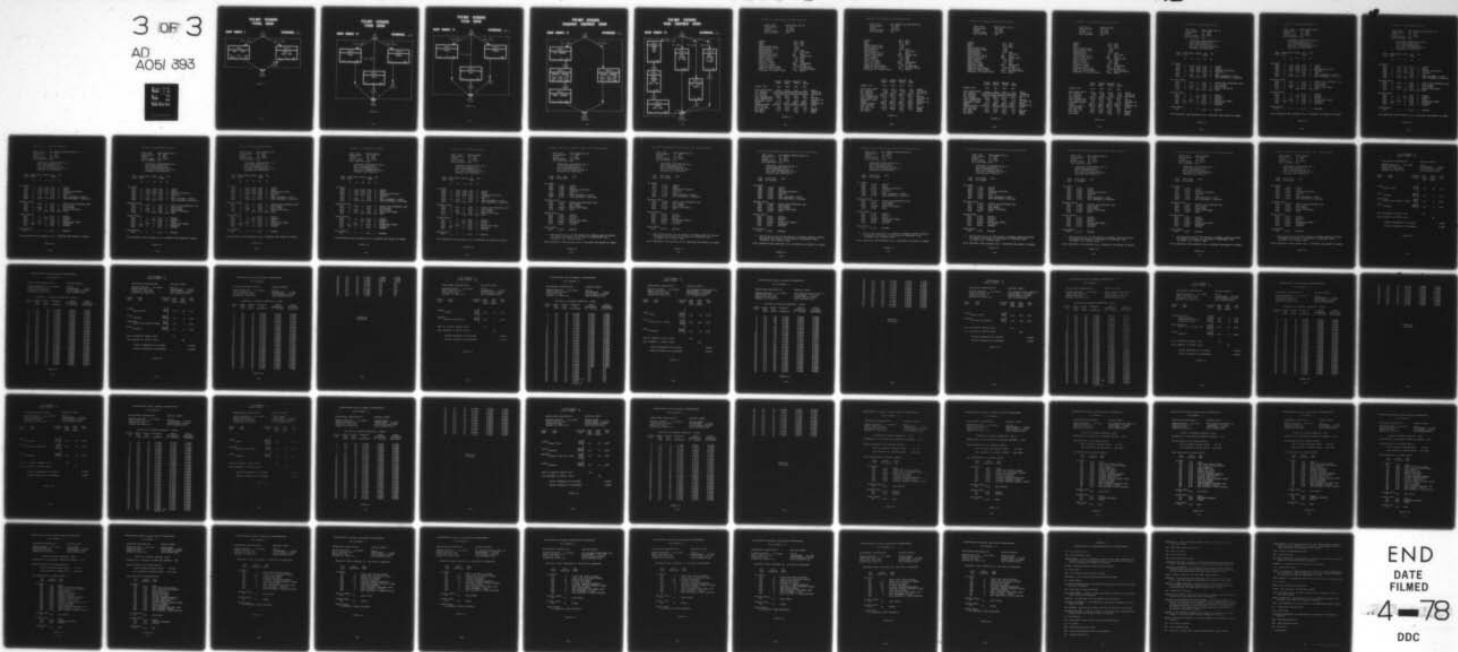
USCG-D-47-77

NL

UNCLASSIFIED

3 OF 3

AD  
A051 393



END  
DATE  
FILMED  
4-78  
DDC

# PSS-MEP SCENARIO PATROL GROUP

GROUP NUMBER 7

OCCURRENCE 1

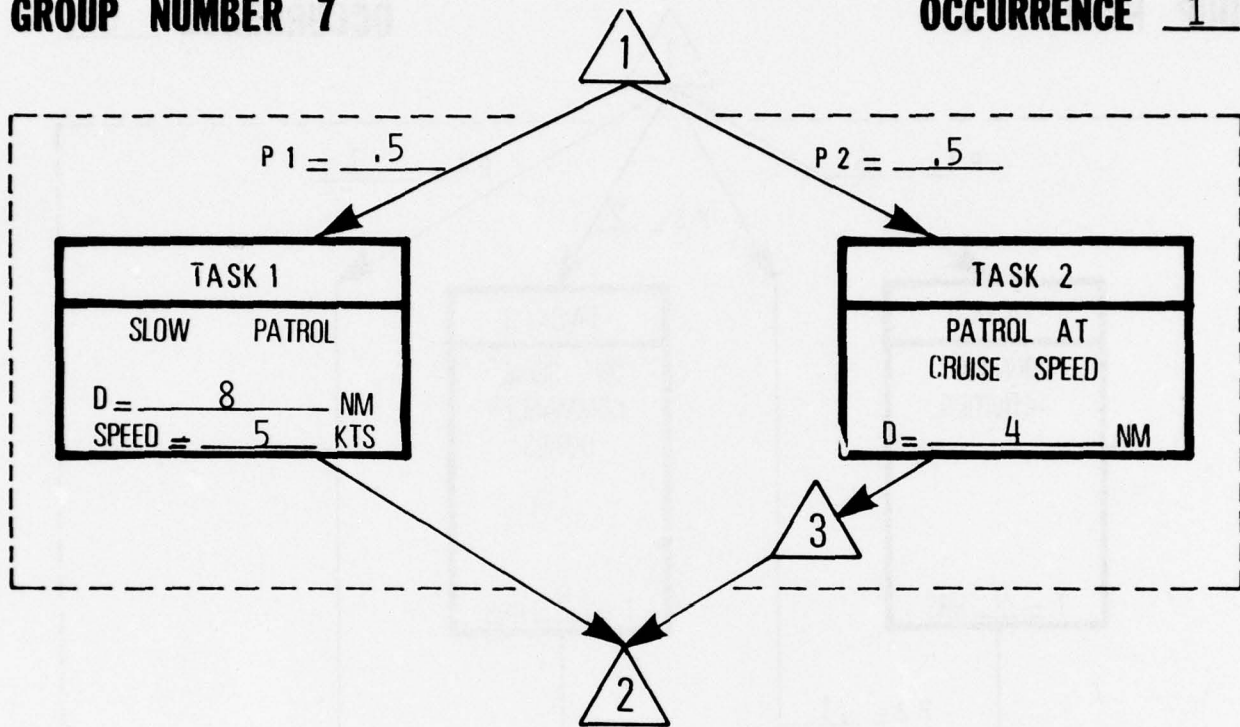


FIGURE C-4

# PSS-MEP SCENARIO STEAM GROUP

GROUP NUMBER 15

OCCURRENCE 1

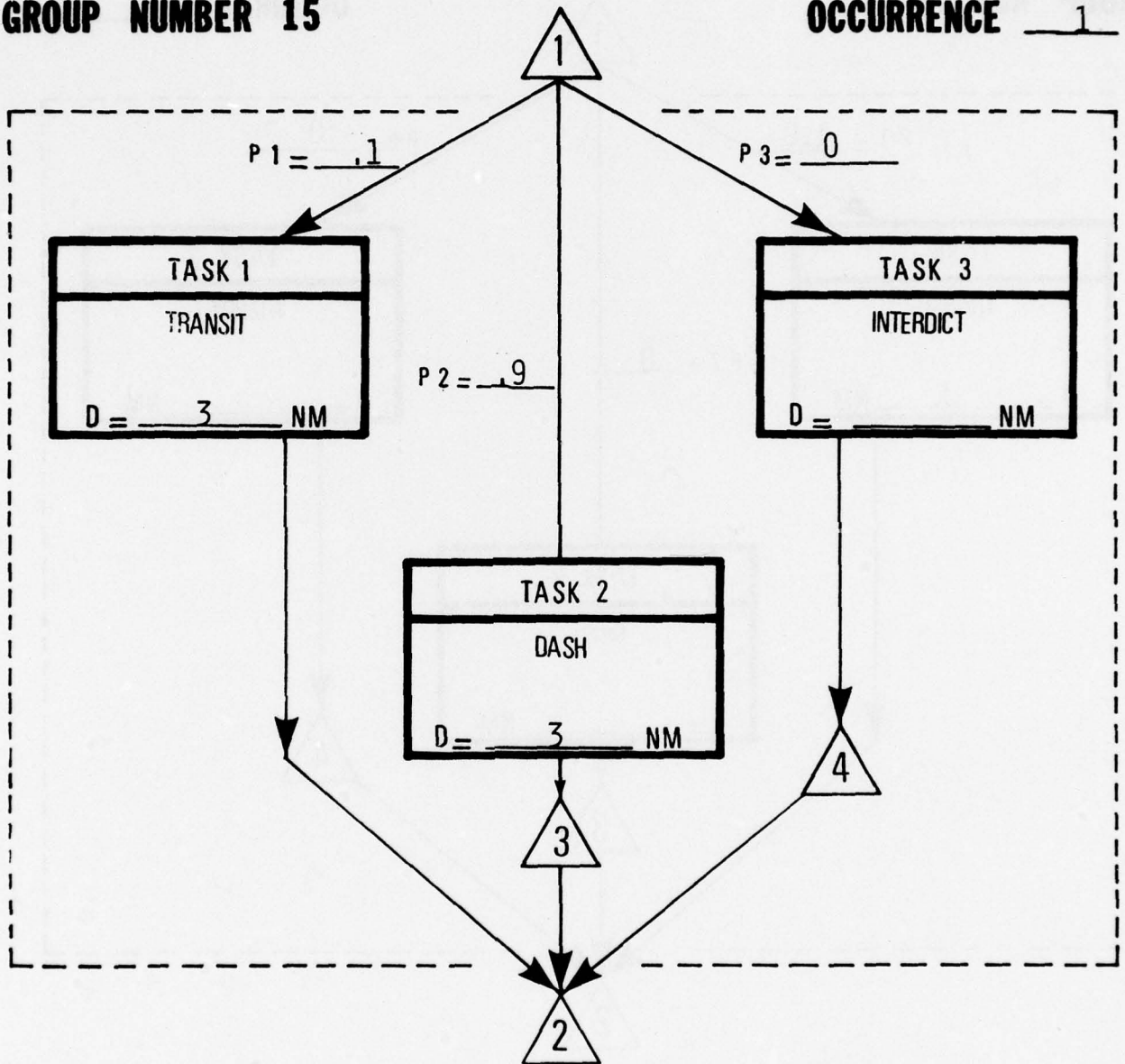


FIGURE C-5

# PSS-MEP SCENARIO STEAM GROUP

GROUP NUMBER 15

OCCURRENCE 2

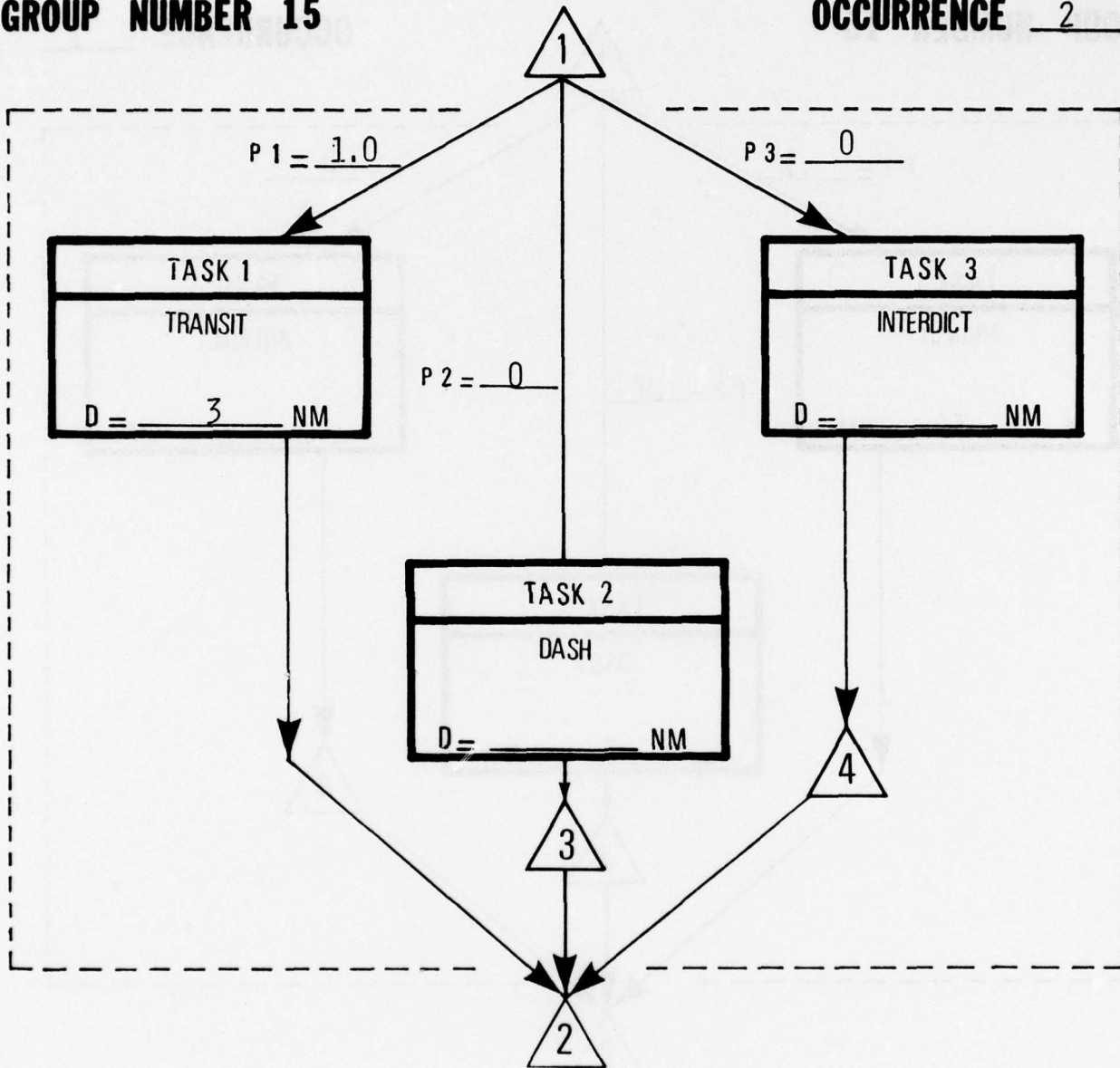


FIGURE C-6

# PSS-MEP SCENARIO TRANSPORT EQUIPMENT GROUP

GROUP NUMBER 17

OCCURRENCE 1

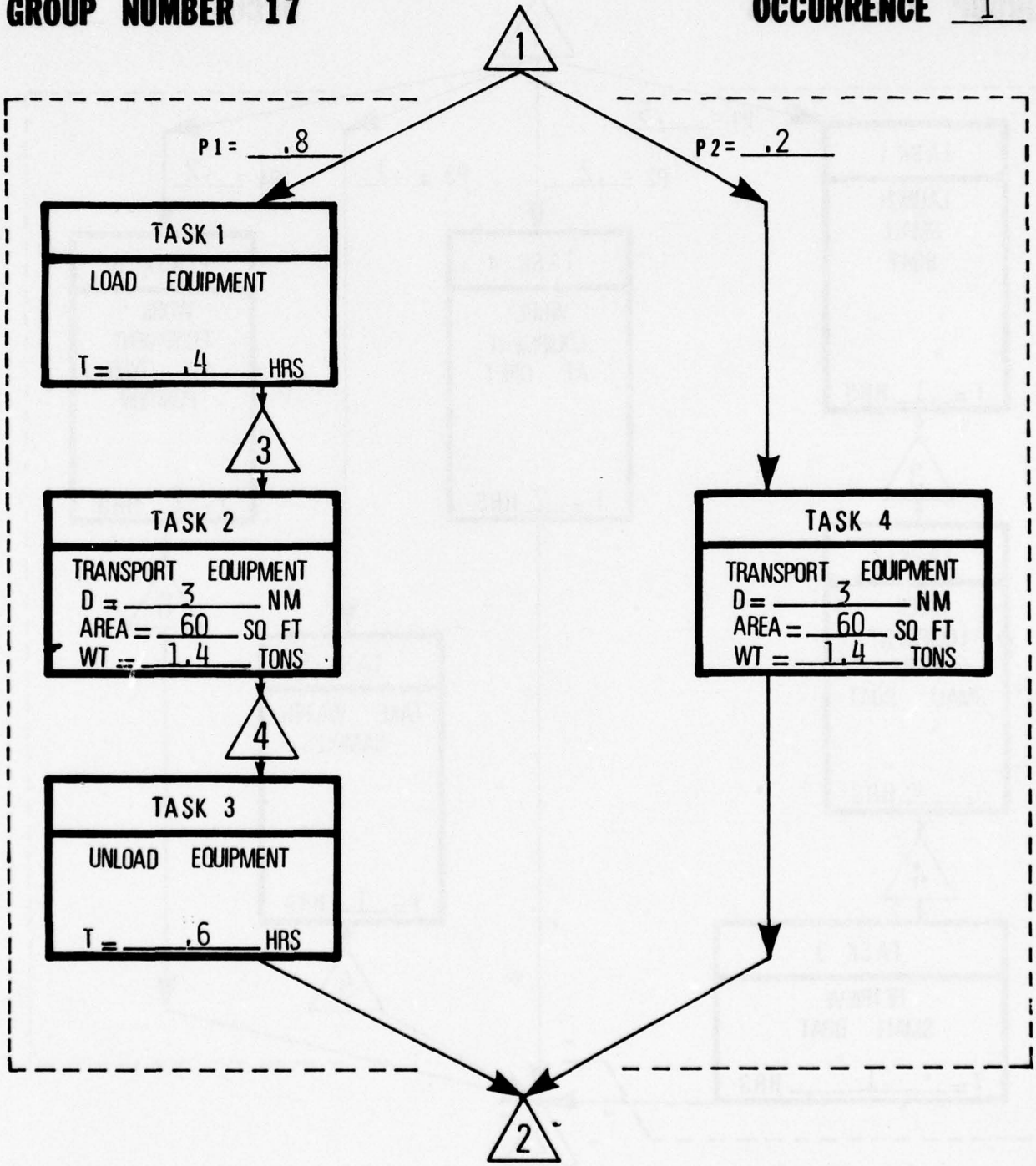


FIGURE C-7

# PSS-MEP SCENARIO WORK EQUIPMENT GROUP

**GROUP NUMBER 18**

**OCCURRENCE 1**

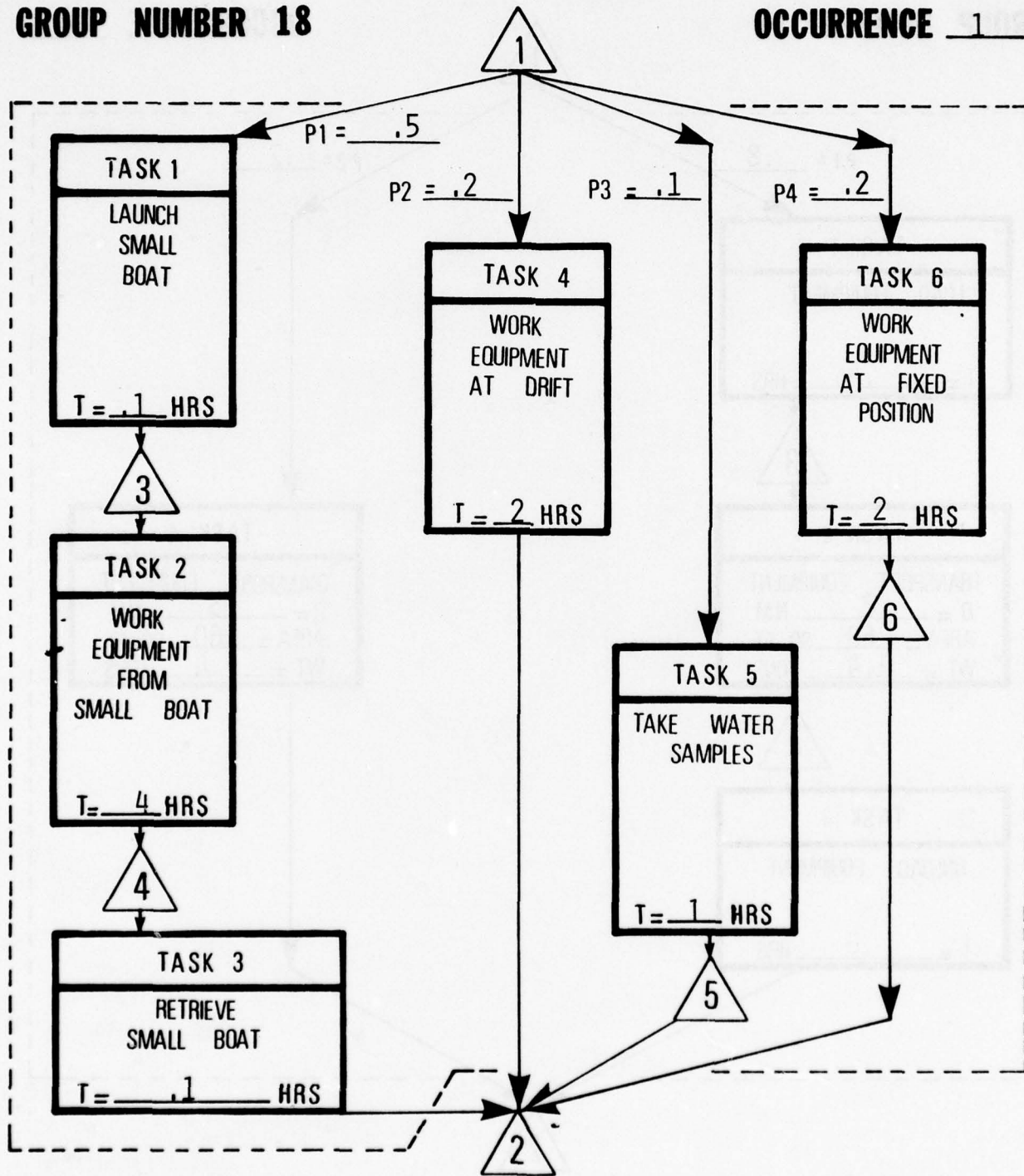


FIGURE C-8

C R A F T C H A R A C T E R I S T I C S

CRAFT TYPE COAST GUARD PWB 32  
 DISPLACEMENT 9 TONS  
 LENGTH 32 FEET  
 DESIGN SPEED 25 KNOTS  
 FUEL FRACTION 0.43

LENGTH 32.0 FEET  
 BEAM 12.0 FEET  
 DRAFT 5.0 FEET  
 LENGTH/BEAM RATIO 2.66  
 DRAFT/LENGTH RATIO 0.16  
 DISPLACEMENT 8.5 TONS  
 SURVIVABILITY 3 SEA STATE  
 TOWS VESSELS UP TO 100. TONS  
 USEABLE DECK AREA 100. SQUARE FEET  
 CARGO CAPACITY 1.0 TONS  
 FUEL CAPACITY 0.5 TONS  
 USEFUL PAYLOAD 1.8 TONS  
 INSTALLED POWER 390. HORSEPOWER  
 POWER TO WEIGHT 45.8 HP/TON  
 TRANSPORT EFFICIENCY 1.83 HP/TON-KNOT  
 RANGE AT CRUISE SPEED 175. NAUTICAL MILES  
 ENDURANCE AT CRUISE SPEED 9.7 HOURS

	FLANK SPEED	CRUISE SPEED	REDUCED SPEED	ON SCENE	
ENGINE TYPE	(DE)	(DE)	(DE)	(DE)	
CALM WATER SPEED	25.0	18.0	12.0	5.0	KNOTS
SFC (WEIGHT)	*****	*****	*****	*****	LBS/HP-HR
SFC (VOLUME)	*****	*****	*****	*****	GAL/HP-HR
HP UTILIZED	390.0	160.0	80.0	40.0	HP
FUEL CONSUMPTION	42.5	28.5	12.0	2.0	GAL/HR
FUEL CONSUMPTION	1.7	1.6	1.0	0.4	GAL/NAUT MI
ENDURANCE (FUEL)	4.7	9.7	16.6	100.0	HOURS
RANGE	117.0	175.0	200.0	500.0	NAUTICAL MI
TURNING RADIUS	*****	193.5	*****	*****	YARDS
CRAFT MOTION	0.1	0.1	0.1	0.1	G
AVG FUEL RATE	41.5	28.5	12.0	2.0	GAL/HR
AVG SPEED	22.5	12.9	12.0	5.0	KNOTS
TOW SPEED	-	-	9.6	-	KNOTS

FIGURE C-9

# C R A F T C H A R A C T E R I S T I C S

CRAFT TYPE	AIR CUSHION VEHICLE-HIGH P/L
DISPLACEMENT	15 TONS
LENGTH	50 FEET
DESIGN SPEED	50 KNOTS
FUEL FRACTION	0.25

LENGTH	50.0	FEET	
BEAM	25.0	FEET	
DRAFT	0.5	FEET	
LENGTH/BEAM RATIO	2.00		
DRAFT/LENGTH RATIO	0.01		
DISPLACEMENT	15.0	TONS	
SURVIVABILITY	3	SEA STATE	
TOWS VESSELS UP TO	16.	TONS	
USEABLE DECK AREA	625.	SQUARE FEET	
CARGO CAPACITY	4.3	TONS	
FUEL CAPACITY	1.4	TONS	
USEFUL PAYLOAD	5.8	TONS	
INSTALLED POWER	1340.	HORSEPOWER	
POWER TO WEIGHT	89.3	HP/TON	
TRANSPORT EFFICIENCY	1.79	HP/TON-KNOT	
RANGE AT CRUISE SPEED	192.	NAUTICAL MILES	
ENDURANCE AT CRUISE SPEED	4.5	HOURS	

	FLANK SPEED	CRUISE SPEED	REDUCED SPEED	ON SCENE	
ENGINE TYPE	(GT)	(GT)	(GT)	(GT)	
CALM WATER SPEED	50.0	42.5	12.0	5.0	KNOTS
SFC (WEIGHT)	0.68	0.77	0.95	1.42	LBS/HP-HR
SFC (VOLUME)	0.10	0.11	0.14	0.21	GAL/HP-HR
HP UTILIZED	1340.0	938.0	509.2	134.0	HP
FUEL CONSUMPTION	137.0	107.4	72.5	28.5	GAL/HR
FUEL CONSUMPTION	2.7	2.5	6.0	5.7	GAL/NAUT MI
ENDURANCE (FUEL)	3.5	4.5	6.7	17.0	HOURS
RANGE	176.6	191.5	80.1	84.9	NAUTICAL MI
TURNING RADIUS	806.4	685.5	193.5	80.6	YARDS
CRAFT MOTION	0.1	0.1	0.1	0.1	G
AVG FUEL RATE	137.8	110.4	72.5	28.5	GAL/HR
AVG SPEED	31.9	30.0	11.7	4.9	KNOTS
TOW SPEED	-	-	9.7	-	KNOTS

FIGURE C-10

C R A F T C H A R A C T E R I S T I C S

CRAFT TYPE	COAST GUARD UTB 41
DISPLACEMENT	15 TONS
LENGTH	41 FEET
DESIGN SPEED	26 KNOTS
FUEL FRACTION	0.56

LENGTH	41.0 FEET
BEAM	13.5 FEET
DRAFT	4.0 FEET
LENGTH/BEAM RATIO	3.03
DRAFT/LENGTH RATIO	0.10
DISPLACEMENT	15.0 TONS
SURVIVABILITY	4 SEA STATE
TOWS VESSELS UP TO	150. TONS
USEABLE DECK AREA	200. SQUARE FEET
CARGO CAPACITY	2.0 TONS
FUEL CAPACITY	1.3 TONS
USEFUL PAYLOAD	4.5 TONS
INSTALLED POWER	640. HORSEPOWER
POWER TO WEIGHT	42.6 HP/TON
TRANSPORT EFFICIENCY	1.64 HP/TON-KNOT
RANGE AT CRUISE SPEED	300. NAUTICAL MILES
ENDURANCE AT CRUISE SPEED	16.6 HOURS

	FLANK SPEED	CRUISE SPEED	REDUCED SPEED	ON SCENE	
ENGINE TYPE	(DE)	(DE)	(DE)	(DE)	
CALM WATER SPEED	26.0	18.0	12.0	5.0	KNOTS
SFC (WEIGHT)	*****	*****	*****	*****	LBS/HP-HR
SFC (VOLUME)	*****	*****	*****	*****	GAL/HP-HR
HP UTILIZED	640.0	224.0	138.0	64.0	HP
FUEL CONSUMPTION	72.8	40.0	20.4	5.0	GAL/HR
FUEL CONSUMPTION	2.8	2.2	1.7	1.0	GAL/NAUT MI
ENDURANCE (FUEL)	9.1	16.6	32.5	128.0	HOURS
RANGE	237.0	300.0	390.0	644.0	NAUTICAL MI
TURNING RADIUS	*****	193.5	*****	*****	YARDS
CRAFT MOTION	0.1	0.1	0.1	0.1	G
AVG FUEL RATE	70.4	40.0	20.4	5.0	GAL/HR
AVG SPEED	23.3	13.4	12.0	5.0	KNOTS
TOW SPEED	-	-	9.9	-	KNOTS

FIGURE C-11

## C R A F T C H A R A C T E R I S T I C S

CRAFT TYPE	HYBRID VESSEL
DISPLACEMENT	25 TONS
LENGTH	50 FEET
DESIGN SPEED	35 KNOTS
FUEL FRACTION	0.25

LENGTH	50.0 FEET
BEAM	16.7 FEET
DRAFT	3.0 FEET
LENGTH/BEAM RATIO	3.00
DRAFT/LENGTH RATIO	0.06
DISPLACEMENT	25.2 TONS
SURVIVABILITY	4 SEA STATE
TOWS VESSELS UP TO	159. TONS
USEABLE DECK AREA	250. SQUARE FEET
CARGO CAPACITY	6.3 TONS
FUEL CAPACITY	2.1 TONS
USEFUL PAYLOAD	8.4 TONS
INSTALLED POWER	516. HORSEPOWER
POWER TO WEIGHT	20.4 HP/TON
TRANSPORT EFFICIENCY	0.58 HP/TON-KNOT
RANGE AT CRUISE SPEED	918. NAUTICAL MILES
ENDURANCE AT CRUISE SPEED	30.0 HOURS

	FLANK SPEED	CRUISE SPEED	REDUCED SPEED	ON SCENE	
ENGINE TYPE	(DE)	(DE)	(DE)	(DE)	
CALM WATER SPEED	35.0	30.6	12.0	5.0	KNOTS
SFC (WEIGHT)	0.35	0.35	0.35	0.35	LBS/HP-HR
SFC (VOLUME)	0.05	0.05	0.05	0.05	GAL/HP-HR
HP UTILIZED	515.5	447.5	200.9	58.8	HP
FUEL CONSUMPTION	27.0	23.4	10.5	3.1	GAL/HR
FUEL CONSUMPTION	0.8	0.8	0.9	0.6	GAL/NAUT MI
ENDURANCE (FUEL)	26.0	30.0	66.8	228.3	HOURS
RANGE	911.0	918.3	801.3	1141.3	NAUTICAL MI
TURNING RADIUS	376.3	329.3	129.0	53.8	YARDS
CRAFT MOTION	0.0	0.0	0.0	0.0	G
AVG FUEL RATE	26.2	23.0	10.5	3.1	GAL/HR
AVG SPEED	29.5	28.0	12.0	5.0	KNOTS
TOW SPEED	-	-	9.7	-	KNOTS

FIGURE C-12

C R A F T P A R A M E T E R S

CRAFT TYPE COAST GUARD PWB 32  
 DISPLACEMENT 9 TONS  
 LENGTH 32 FEET  
 DESIGN SPEED 25 KNOTS  
 FUEL FRACTION 0.43

VISIBILITY DISTRIBUTION NO. 1  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 2  
 (AVERAGE SEA STATE=1.0)

TASK CODE	CARGO CPCTY	DRAFT DF	MANEUV MN	SEA STATE LS	TOW TW	
ON SCENE:						
ASST	--	1.00	1.00	1.00	--	ASSIST
BORD	--	1.00	1.00	1.00	--	BOARD
MNAC	--	1.00	1.00	1.00	--	MONITOR ACTIVITIES
RTRV	--	1.00	1.00	1.00	--	RETRIEVE
WAIT	--	--	--	1.00	--	WAIT
WEQD	--	1.00	--	1.00	--	WORK EQUIPMENT @ DRIFT
WEQP	--	1.00	1.00	1.00	--	WORK EQUIPMENT @ POSITION
REDUCED SPEED:						
SDIU	--	1.00	--	1.00	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	1.00	--	SLOW ESCORT
SPAT	--	1.00	--	1.00	--	SLOW PATROL
SPEG	--	1.00	--	1.00	--	SEARCH FOR PEOPLE
TOWS	--	--	0.50	1.00	1.00	TOWS
CRUISE SPEED:						
ESCT	--	--	--	1.00	--	ESCORT
IDNT	--	--	1.00	1.00	--	IDENTIFY
PATL	--	--	--	1.00	--	PATROL
STGT	--	1.00	--	1.00	--	SEARCH FOR TARGET
TRPT	****	--	--	1.00	--	TRANSPORT
TRST	--	--	--	1.00	--	TRANSIT
FLANK SPEED:						
RSPD	--	--	--	1.00	--	RESPOND

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE C-13

C R A F T P A R A M E T E R S

CRAFT TYPE COAST GUARD PWB 32  
 DISPLACEMENT 9 TONS  
 LENGTH 32 FEET  
 DESIGN SPEED 25 KNOTS  
 FUEL FRACTION 0.43

VISIBILITY DISTRIBUTION NO. 2  
 LOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 5  
 (AVERAGE SEA STATE=2.5)

TASK CODE	CARGO CPCTY	DRAFT DF	MANEUV MN	SEA STATE LS	TOW Tw	
ON SCENE:						
ASST	--	1.00	1.00	0.70	--	ASSIST
BORD	--	1.00	1.00	0.70	--	BOARD
MNAC	--	1.00	1.00	0.70	--	MONITOR ACTIVITIES
RTRV	--	1.00	1.00	0.70	--	RETRIEVE
WAIT	--	--	--	0.70	--	WAIT
WEGD	--	1.00	--	0.70	--	WORK EQUIPMENT @ DRIFT
WEGP	--	1.00	1.00	0.70	--	WORK EQUIPMENT @ POSITION
REDUCED SPEED:						
SDIU	--	1.00	--	0.70	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	0.70	--	SLOW ESCORT
SPAT	--	1.00	--	0.70	--	SLOW PATROL
SPEO	--	1.00	--	0.70	--	SEARCH FOR PEOPLE
TOWS	--	--	0.50	0.70	1.00	TOWS
CRUISE SPEED:						
ESCT	--	--	--	0.70	--	ESCORT
IDNT	--	--	1.00	0.70	--	IDENTIFY
PATL	--	--	--	0.70	--	PATROL
STGT	--	1.00	--	0.70	--	SEARCH FOR TARGET
TRPT	****	--	--	0.70	--	TRANSPORT
TRST	--	--	--	0.70	--	TRANSIT
FLANK SPEED:						
RSPD	--	--	--	0.70	--	RESPOND

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE C-14

C R A F T P A R A M E T E R S

CRAFT TYPE AIR CUSHION VEHICLE-HIGH P/L  
 DISPLACEMENT 15 TONS  
 LENGTH 50 FEET  
 DESIGN SPEED 50 KNOTS  
 FUEL FRACTION 0.25

VISIBILITY DISTRIBUTION NO. 1  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 2  
 (AVERAGE SEA STATE=1.0)

TASK CODE	CARGO CPCTY	DRAFT DF	MANEUV MN	SEA STATE LS	TOW TW	
ON SCENE:						
ASST	--	1.00	1.00	1.00	--	ASSIST
BORD	--	1.00	1.00	1.00	--	BOARD
MNAC	--	1.00	1.00	1.00	--	MONITOR ACTIVITIES
RTRV	--	1.00	1.00	1.00	--	RETRIEVE
WAIT	--	--	--	1.00	--	WAIT
WEQD	--	1.00	--	1.00	--	WORK EQUIPMENT @ DRIFT
WEQP	--	1.00	1.00	1.00	--	WORK EQUIPMENT @ POSITION
REDUCED SPEED:						
SDIU	--	1.00	--	0.98	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	0.98	--	SLOW ESCORT
SPAT	--	1.00	--	0.98	--	SLOW PATROL
SPEO	--	1.00	--	0.98	--	SEARCH FOR PEOPLE
TOWS	--	--	1.00	0.98	0.83	TOWS
CRUISE SPEED:						
ESCT	--	--	--	0.98	--	ESCORT
IDNT	--	--	0.91	0.98	--	IDENTIFY
PATL	--	--	--	0.98	--	PATROL
STGT	--	1.00	--	0.98	--	SEARCH FOR TARGET
TRPT	****	--	--	0.98	--	TRANSPORT
TRST	--	--	--	0.98	--	TRANSIT
FLANK SPEED:						
RSPD	--	--	--	0.95	--	RESPOND

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE C-15

C R A F T P A R A M E T E R S

CRAFT TYPE AIR CUSHION VEHICLE-HIGH P/L  
 DISPLACEMENT 15 TONS  
 LENGTH 50 FEET  
 DESIGN SPEED 50 KNOTS  
 FUEL FRACTION 0.25

VISIBILITY DISTRIBUTION NO. 2  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 5  
 (AVERAGE SEA STATE=2.5)

TASK CODE	CARGO CPCTY	DRAFT DF	MANEUV MN	SEA STATE LS	TOW Tw	
ON SCENE:						
ASST	--	1.00	1.00	0.70	--	ASSIST
BORD	--	1.00	1.00	0.70	--	BOARD
MNAC	--	1.00	1.00	0.70	--	MONITOR ACTIVITIES
RTRV	--	1.00	1.00	0.70	--	RETRIEVE
WAIT	--	--	--	0.70	--	WAIT
WEQD	--	1.00	--	0.70	--	WORK EQUIPMENT @ DRIFT
WEQP	--	1.00	1.00	0.70	--	WORK EQUIPMENT @ POSITION
REDUCED SPEED:						
SDIU	--	1.00	--	0.61	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	0.61	--	SLOW ESCORT
SPAT	--	1.00	--	0.61	--	SLOW PATROL
SPEO	--	1.00	--	0.61	--	SEARCH FOR PEOPLE
TOWS	--	--	1.00	0.61	0.83	TOWS
CRUISE SPEED:						
ESCT	--	--	--	0.56	--	ESCORT
IDNT	--	--	0.91	0.56	--	IDENTIFY
PATL	--	--	--	0.56	--	PATROL
STGT	--	1.00	--	0.56	--	SEARCH FOR TARGET
TRPT	****	--	--	0.56	--	TRANSPORT
TRST	--	--	--	0.56	--	TRANSIT
FLANK SPEED:						
RSPD	--	--	--	0.43	--	RESPOND

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE C-16

C R A F T P A R A M E T E R S

CRAFT TYPE COAST GUARD UTB 41  
 DISPLACEMENT 15 TONS  
 LENGTH 41 FEET  
 DESIGN SPEED 26 KNOTS  
 FUEL FRACTION 0.56

VISIBILITY DISTRIBUTION NO. 1  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 2  
 (AVERAGE SEA STATE=1.0)

TASK CODE	CARGO CPCTY	CRAFT CF	MANEUV MN	SEA STATE LS	TOW TW	
ON SCENE:						
ASST	--	1.00	1.00	1.00	--	ASSIST
BORD	--	1.00	1.00	1.00	--	BOARD
MNAC	--	1.00	1.00	1.00	--	MONITOR ACTIVITIES
RTRV	--	1.00	1.00	1.00	--	RETRIEVE
WAIT	--	--	--	1.00	--	WAIT
WEQD	--	1.00	--	1.00	--	WORK EQUIPMENT @ DRIFT
WEQP	--	1.00	1.00	1.00	--	WORK EQUIPMENT @ POSITION
REDUCED SPEED:						
SDIU	--	1.00	--	1.00	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	1.00	--	SLOW ESCORT
SPAT	--	1.00	--	1.00	--	SLOW PATROL
SPEO	--	1.00	--	1.00	--	SEARCH FOR PEOPLE
TOWS	--	--	0.50	1.00	1.00	TOWS
CRUISE SPEED:						
ESCT	--	--	--	1.00	--	ESCORT
IUNT	--	--	1.00	1.00	--	IDENTIFY
PATL	--	--	--	1.00	--	PATROL
STGT	--	1.00	--	1.00	--	SEARCH FOR TARGET
TRPT	****	--	--	1.00	--	TRANSPORT
TRST	--	--	--	1.00	--	TRANSIT
FLANK SPEED:						
RSPD	--	--	--	1.00	--	RESPOND

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE C-17

C R A F T P A R A M E T E R S

CRAFT TYPE COAST GUARD UTB 41  
 DISPLACEMENT 15 TONS  
 LENGTH 41 FEET  
 DESIGN SPEED 26 KNOTS  
 FUEL FRACTION 0.56

VISIBILITY DISTRIBUTION NO. 2  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 5  
 (AVERAGE SEA STATE=2.5)

TASK CODE	CARGO CPTY	DRAFT	MANEUV	SEA STATE	TOW	
	CC	DF	MN	LS	Tw	
ON SCENE:						
ASST	--	1.00	1.00	0.85	--	ASSIST
BORD	--	1.00	1.00	0.85	--	BOARD
MNAC	--	1.00	1.00	0.85	--	MONITOR ACTIVITIES
RTRV	--	1.00	1.00	0.85	--	RETRIEVE
WAIT	--	--	--	0.85	--	WAIT
WEQD	--	1.00	--	0.85	--	WORK EQUIPMENT @ DRIFT
WEQP	--	1.00	1.00	0.85	--	WORK EQUIPMENT @ POSITION
REDUCED SPEED:						
SDIU	--	1.00	--	0.85	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	0.85	--	SLOW ESCORT
SPAT	--	1.00	--	0.85	--	SLOW PATROL
SPEO	--	1.00	--	0.85	--	SEARCH FOR PEOPLE
TOWS	--	--	0.50	0.85	1.00	TOWS
CRUISE SPEED:						
ESCT	--	--	--	0.78	--	ESCORT
IDMT	--	--	1.00	0.78	--	IDENTIFY
PATL	--	--	--	0.78	--	PATROL
STGT	--	1.00	--	0.78	--	SEARCH FOR TARGET
TRPT	****	--	--	0.78	--	TRANSPORT
TRST	--	--	--	0.78	--	TRANSIT
FLANK SPEED:						
RSPD	--	--	--	0.78	--	RESPOND

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE C-18

C R A F T P A R A M E T E R S

CRAFT TYPE HYBRID VESSEL  
 DISPLACEMENT 25 TONS  
 LENGTH 50 FEET  
 DESIGN SPEED 35 KNOTS  
 FUEL FRACTION 0.25

VISIBILITY DISTRIBUTION NO. 1  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 2  
 (AVERAGE SEA STATE=1.0)

TASK CODE	CARGO CPCTY	DRAFT DF	MANEUV MN	SEA STATE LS	TOW TW	
ON SCENE:						
ASST	--	1.00	1.00	1.00	--	ASSIST
BORD	--	1.00	1.00	1.00	--	BOARD
MNAC	--	1.00	1.00	1.00	--	MONITOR ACTIVITIES
RTRV	--	1.00	1.00	1.00	--	RETRIEVE
WAIT	--	--	--	1.00	--	WAIT
WEQD	--	1.00	--	1.00	--	WORK EQUIPMENT @ DRIFT
WEQP	--	1.00	1.00	1.00	--	WORK EQUIPMENT @ POSITION
REDUCED SPEED:						
SDIU	--	1.00	--	1.00	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	1.00	--	SLOW ESCORT
SPAT	--	1.00	--	1.00	--	SLOW PATROL
SPEO	--	1.00	--	1.00	--	SEARCH FOR PEOPLE
TOWS	--	--	1.00	1.00	1.00	TOWS
CRUISE SPEED:						
ESCT	--	--	--	1.00	--	ESCORT
IDNT	--	--	1.00	1.00	--	IDENTIFY
PATL	--	--	--	1.00	--	PATROL
STGT	--	1.00	--	1.00	--	SEARCH FOR TARGET
TRPT	****	--	--	1.00	--	TRANSPORT
TRST	--	--	--	1.00	--	TRANSIT
FLANK SPEED:						
RSPD	--	--	--	1.00	--	RESPOND

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE C-19

C R A F T P A R A M E T E R S

CRAFT TYPE            HYBRID VESSEL  
DISPLACEMENT        25 TONS  
LENGTH                50 FEET  
DESIGN SPELD        35 KNOTS  
FUEL FRACTION       0.25

VISIBILITY DISTRIBUTION NO. 2  
TOW DISTRIBUTION NO. 1  
DEPTH DISTRIBUTION NO. 1  
SEA STATE DISTRIBUTION NO. 5  
(AVERAGE SEA STATE=2.5)

TASK CODE	CARGO CPCTY	DRAFT	MANEUV	SEA STATE	TOW	
	CC	DF	MN	LS	TW	
ON SCENE:						
ASST	--	1.00	1.00	0.85	--	ASSIST
BORD	--	1.00	1.00	0.85	--	BOARD
MNAC	--	1.00	1.00	0.85	--	MONITOR ACTIVITIES
RTRV	--	1.00	1.00	0.85	--	RETRIEVE
WAIT	--	--	--	0.85	--	WAIT
WEQD	--	1.00	--	0.85	--	WORK EQUIPMENT @ DRIFT
WEQP	--	1.00	1.00	0.85	--	WORK EQUIPMENT @ POSITION
REDUCED SPEED:						
SDIU	--	1.00	--	0.85	--	SEARCH FOR DISTRESSED UNIT
SESC	--	--	--	0.85	--	SLOW ESCORT
SPAT	--	1.00	--	0.85	--	SLOW PATROL
SPEO	--	1.00	--	0.85	--	SEARCH FOR PEOPLE
TOWS	--	--	1.00	0.85	1.00	TOWS
CRUISE SPEED:						
ESCT	--	--	--	0.85	--	ESCORT
IDNT	--	--	1.00	0.85	--	IDENTIFY
PATL	--	--	--	0.85	--	PATROL
STGT	--	1.00	--	0.85	--	SEARCH FOR TARGET
TRPT	****	--	--	0.85	--	TRANSPORT
TRST	--	--	--	0.85	--	TRANSIT
FLANK SPEED:						
RSPD	--	--	--	0.75	--	RESPOND

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE C-20

TASK PROBABILITIES OF SUCCESS

CRAFT TYPL COAST GUARD PWB 32  
 DISPLACEMENT 9 TONS  
 LENGTH 32 FEET  
 DESIGN SPEED 25 KNOTS  
 FUEL FRACTION 0.43

VISIBILITY DISTRIBUTION NO. 1  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 2  
 (AVERAGE SEA STATE=1.0)

TASK CODE	TASK PROB. OF SUCCESS	TASK
ON SCENE:		
ASST	1.000	ASSIST
BORD	1.000	BOARD
MNAC	1.000	MONITOR ACTIVITIES
RTRV	1.000	RETRIEVE
WAIT	1.000	WAIT
WEQD	1.000	WORK EQUIPMENT @ DRIFT
WEQP	1.000	WORK EQUIPMENT @ POSITION
REDUCED SPEED:		
SUIU	1.000*	SEARCH FOR DISTRESSED UNIT
SESC	1.000	SLOW ESCORT
SPAT	1.000	SLOW PATROL
SPEO	1.000*	SEARCH FOR PEOPLE
TOWS	0.500	TOWS
CRUISE SPEED:		
ESCT	1.000	ESCORT
IDNT	1.000	IDENTIFY
PATL	1.000	PATROL
STGT	1.000*	SEARCH FOR TARGET
TRPT	*****	TRANSPORT
TRST	1.000	TRANSIT
FLANK SPEED:		
RSPD	1.000	RESPOND

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON SCENARIO (E.G., SEARCH AREA)

\*\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE C-21

T A S K P R O B A B I L I T I E S O F S U C C E S S

CRAFT TYPE COAST GUARD PWB 32  
 DISPLACEMENT 9 TONS  
 LENGTH 32 FEET  
 DESIGN SPEED 25 KNOTS  
 FUEL FRACTION 0.43

VISIBILITY DISTRIBUTION NO. 2  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 5  
 (AVERAGE SEA STATE=2.5)

TASK CODE	TASK PROB. OF SUCCESS	TASK
ON SCENE:		
ASST	0.700	ASSIST
BORD	0.700	BOARD
MNAC	0.700	MONITOR ACTIVITIES
RTRV	0.700	RETRIEVE
WAIT	0.700	WAIT
WEQD	0.700	WORK EQUIPMENT @ DRIFT
WEQP	0.700	WORK EQUIPMENT @ POSITION
REDUCED SPEED:		
SUIU	0.700*	SEARCH FOR DISTRESSED UNIT
SESC	0.700	SLOW ESCORT
SPAT	0.700	SLOW PATROL
SPEO	0.700*	SEARCH FOR PEOPLE
TOWS	0.350	TOWS
CRUISE SPEED:		
ESCT	0.700	ESCORT
IDNT	0.700	IDENTIFY
PATL	0.700	PATROL
STGT	0.700*	SEARCH FOR TARGET
TRPT	****	TRANSPORT
TRST	0.700	TRANSIT
FLANK SPEED:		
RSPD	0.700	RESPOND

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON SCENARIO (E.G., SEARCH AREA)

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE C-22

T A S K P R O B A B I L I T I E S O F S U C C E S S

CRAFT TYPE AIR CUSHION VEHICLE-HIGH P/L  
 DISPLACEMENT 15 TONS  
 LENGTH 50 FEET  
 DESIGN SPEED 50 KNOTS  
 FUEL FRACTION 0.25

VISIBILITY DISTRIBUTION NO. 1  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 2  
 (AVERAGE SEA STATE=1.0)

TASK CODE	TASK PROB. OF SUCCESS	TASK
ON SCENE:		
ASST	1.000	ASSIST
BORD	1.000	BCARD
MNAC	1.000	MONITOR ACTIVITIES
RTRV	1.000	RETRIEVE
WAIT	1.000	WAIT
WEQD	1.000	WORK EQUIPMENT @ DRIFT
WEQP	1.000	WORK EQUIPMENT @ POSITION
REDUCED SPEED:		
SDIU	0.985*	SEARCH FOR DISTRESSED UNIT
SESC	0.985	SLOW ESCORT
SPAT	0.985	SLOW PATROL
SPEO	0.985*	SEARCH FOR PEOPLE
TOWS	0.817	TOWS
CRUISE SPEED:		
ESCT	0.976	ESCORT
IDNT	0.885	IDENTIFY
PATL	0.976	PATROL
STGT	0.976*	SEARCH FOR TARGET
TRPT	*****	TRANSPORT
TRST	0.976	TRANSIT
FLANK SPEED:		
RSPD	0.955	RESPOND

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON SCENARIO (E.G., SEARCH AREA)

\*\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE C-23

T A S K P R O B A B I L I T I E S O F S U C C E S S

CRAFT TYPE AIR CUSHION VEHICLE-HIGH P/L  
 DISPLACEMENT 15 TONS  
 LENGTH 50 FEET  
 DESIGN SPEED 50 KNOTS  
 FUEL FRACTION 0.25

VISIBILITY DISTRIBUTION NO. 2  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 5  
 (AVERAGE SEA STATE=2.5)

TASK CODE	TASK PROB. OF SUCCESS	TASK
ON SCENE:		
ASST	0.700	ASSIST
BORD	0.700	BOARD
MNAC	0.700	MONITOR ACTIVITIES
RTRV	0.700	RETRIEVE
WAIT	0.700	WAIT
WEGD	0.700	WORK EQUIPMENT @ DRIFT
WEGP	0.700	WORK EQUIPMENT @ POSITION
REDUCED SPEED:		
SDIU	0.610*	SEARCH FOR DISTRESSED UNIT
SESC	0.610	SLOW ESCORT
SPAT	0.610	SLOW PATROL
SPEO	0.610*	SEARCH FOR PEOPLE
TOWS	0.506	TOWS
CRUISE SPEED:		
ESCT	0.556	ESCORT
ILNT	0.504	IDENTIFY
PATL	0.556	PATROL
STGT	0.556*	SEARCH FOR TARGET
TRPT	*****	TRANSPORT
TRST	0.556	TRANSIT
FLANK SPEED:		
RSPD	0.430	RESPOND

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON SCENARIO (E.G., SEARCH AREA)

\*\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE C-24

T A S K P R O B A B I L I T I E S O F S U C C E S S

CRAFT TYPE COAST GUARD UTB 41  
 DISPLACEMENT 15 TONS  
 LENGTH 41 FEET  
 DESIGN SPEED 26 KNOTS  
 FUEL FRACTION 0.56

VISIBILITY DISTRIBUTION NO. 1  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 2  
 (AVERAGE SEA STATE=1.0)

TASK CODE	TASK PROB. OF SUCCESS	TASK
ON SCENE:		
ASST	1.000	ASSIST
BORD	1.000	BOARD
MNAC	1.000	MONITOR ACTIVITIES
RTRV	1.000	RETRIEVE
WAIT	1.000	WAIT
WEQD	1.000	WORK EQUIPMENT @ DRIFT
WEQP	1.000	WORK EQUIPMENT @ POSITION
REDUCED SPEED:		
SDIU	1.000*	SEARCH FOR DISTRESSED UNIT
SESC	1.000	SLOW ESCORT
SPAT	1.000	SLOW PATROL
SPEO	1.000*	SEARCH FOR PEOPLE
TOWS	0.500	TOWS
CRUISE SPEED:		
ESCT	1.000	ESCORT
IDNT	1.000	IDENTIFY
PATL	1.000	PATROL
STGT	1.000*	SEARCH FOR TARGET
TRPT	*****	TRANSPORT
TRST	1.000	TRANSIT
FLANK SPEED:		
RSPD	1.000	RESPOND

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON SCENARIO (E.G., SEARCH AREA)

\*\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE C-25

TASK PROBABILITIES OF SUCCESS

CRAFT TYPE COAST GUARD UTB 41  
 DISPLACEMENT 15 TONS  
 LENGTH 41 FEET  
 DESIGN SPEED 26 KNOTS  
 FUEL FRACTION 0.56

VISIBILITY DISTRIBUTION NO. 2  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 5  
 (AVERAGE SEA STATE=2.5)

TASK CODE	TASK PROB. OF SUCCESS	TASK
ON SCENE:		
ASST	0.850	ASSIST
BORD	0.850	BOARD
MNAC	0.850	MONITOR ACTIVITIES
RTRV	0.850	RETRIEVE
WAIT	0.850	WAIT
WEQD	0.850	WORK EQUIPMENT @ DRIFT
WEQP	0.850	WORK EQUIPMENT @ POSITION
REDUCED SPEED:		
SDIU	0.850*	SEARCH FOR DISTRESSED UNIT
SESC	0.850	SLOW ESCORT
SPAT	0.850	SLOW PATROL
SPEO	0.850*	SEARCH FOR PEOPLE
TOWS	0.425	TOWS
CRUISE SPEED:		
ESCT	0.775	ESCORT
IDNT	0.775	IDENTIFY
PATL	0.775	PATROL
STGT	0.775*	SEARCH FOR TARGET
TRPT	****	TRANSPORT
TRST	0.775	TRANSIT
FLANK SPEED:		
RSPD	0.757	RESPOND

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON SCENARIO (E.G., SEARCH AREA)

\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE C-26

TASK PROBABILITIES OF SUCCESS

CRAFT TYPE        HYBRID VESSEL  
DISPLACEMENT     25 TONS  
LENGTH            50 FEET  
DESIGN SPEED      35 KNOTS  
FUEL FRACTION    0.25

VISIBILITY DISTRIBUTION NO. 1  
TOW DISTRIBUTION NO. 1  
DEPTH DISTRIBUTION NO. 1  
SEA STATE DISTRIBUTION NO. 2  
(AVERAGE SEA STATE=1.0)

TASK CODE	TASK PROB. OF SUCCESS	TASK
ON SCENE:		
ASST	1.000	ASSIST
BORD	1.000	BOARD
MNAC	1.000	MONITOR ACTIVITIES
RTRV	1.000	RETRIEVE
WAIT	1.000	WAIT
WEQD	1.000	WORK EQUIPMENT & DRIFT
WEQP	1.000	WORK EQUIPMENT & POSITION
REDUCED SPEED:		
SDIU	1.000*	SEARCH FOR DISTRESSED UNIT
SESC	1.000	SLOW ESCORT
SPAT	1.000	SLOW PATROL
SPEO	1.000*	SEARCH FOR PEOPLE
TOWS	1.000	TOWS
CRUISE SPEED:		
ESCT	1.000	ESCORT
IDNT	1.000	IDENTIFY
PATL	1.000	PATROL
STGT	1.000*	SEARCH FOR TARGET
TRPT	*****	TRANSPORT
TRST	1.000	TRANSIT
FLANK SPEED:		
RSPD	1.000	RESPOND

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS  
IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON  
SCENARIO (E.G., SEARCH AREA)

\*\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

FIGURE C-27

T A S K P R O B A B I L I T I E S O F S U C C E S S

CRAFT TYPE            HYBRID VESSEL  
 DISPLACEMENT        25 TONS  
 LENGTH                50 FEET  
 DESIGN SPEED         35 KNOTS  
 FUEL FRACTION        0.25

VISIBILITY DISTRIBUTION NO. 2  
 TOW DISTRIBUTION NO. 1  
 DEPTH DISTRIBUTION NO. 1  
 SEA STATE DISTRIBUTION NO. 5  
 (AVERAGE SEA STATE=2.5)

TASK CODE	TASK PROB. OF SUCCESS	TASK
ON SCENE:		
ASST	0.850	ASSIST
BORD	0.850	BOARD
MNAC	0.850	MONITOR ACTIVITIES
RTRV	0.850	RETRIEVE
WAIT	0.850	WAIT
WEQD	0.850	WORK EQUIPMENT @ DRIFT
WEGP	0.850	WORK EQUIPMENT @ POSITION
REDUCED SPEED:		
SDIU	0.850*	SEARCH FOR DISTRESSED UNIT
SESC	0.850	SLOW ESCORT
SPAT	0.850	SLOW PATROL
SPEO	0.850*	SEARCH FOR PEOPLE
TOWS	0.850	TOWS
CRUISE SPEED:		
ESCT	0.850	ESCORT
IDNT	0.850	IDENTIFY
PATL	0.850	PATROL
STGT	0.850*	SEARCH FOR TARGET
TRPT	*****	TRANSPORT
TRST	0.850	TRANSIT
FLANK SPEED:		
RSPD	0.754	RESPOND

\* THIS IS THE P.O.S. OF THE ABILITY TO SEARCH. CRAFT'S SUCCESS  
 IN FINDING THE OBJECT OF THE SEARCH IS DEPENDENT UPON  
 SCENARIO (E.G., SEARCH AREA)

\*\*\*\*\* DEPENDENT UPON SCENARIO (E.G., FOOTPRINT AND WEIGHT OF CARGO)

PSS SCENARIO 1  
 SORTIE NUMBER 14

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 1.0

SELECTED CRAFT:

PWB 32  
 DISPLACEMENT 9 TONS  
 DESIGN SPEED 25 KNOTS  
 FUEL FRACTION 0.43

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
		1			
PATROL		70101			
	*SLOW PATROL	70102	1.6	19	1.00
		4			
		3			
STEAM		150101			
	*TRANSIT	150102	0.2	6	1.00
		5			
FIGHT FIRE		30101			
	*FIGHT FIRE FROM CG VESSL	30102	2.0	4	1.00
		8			
STEAM		150201			
	*TRANSIT	150202	0.2	6	1.00
		2			
TIME TO COMPLETE SORTIE (HRS)			4.1		
FUEL CONSUMED IN SORTIE (GALS)				36	
SORTIE PROBABILITY OF SUCCESS					1.0000
SORTIE FREQUENCY OF OCCURRENCE					0.0003

FIGURE C-29

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

PSS SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 1.0

SELECTED CRAFT:

PWB 32  
 DISPLACEMENT 9 TONS  
 DESIGN SPEED 25 KNOTS  
 FUEL FRACTION 0.43

FRACTION OF SCENARIO COMPLETED 0.9865

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FUEL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	4.5	21	0.0162	1.0000	0.0162
2	4.5	21	0.0027	1.0000	0.0027
3	4.5	21	0.0054	1.0000	0.0054
4	4.5	21	0.0027	1.0000	0.0027
5	2.5	17	0.0006	1.0000	0.0006
6	3.0	16	0.0024	1.0000	0.0024
7	4.4	20	0.1458	1.0000	0.1458
8	4.4	20	0.0243	1.0000	0.0243
9	4.4	20	0.0486	1.0000	0.0486
10	4.4	20	0.0243	1.0000	0.0243
11	2.4	16	0.0054	1.0000	0.0054
12	2.9	17	0.0216	1.0000	0.0216
13	2.6	21	0.1500	1.0000	0.1500
14	4.1	36	0.0003	1.0000	0.0003
15	4.6	37	0.0012	1.0000	0.0012
16	6.0	39	0.0729	1.0000	0.0729
17	6.0	39	0.0121	1.0000	0.0121
18	6.0	39	0.0243	1.0000	0.0243
19	6.0	39	0.0121	1.0000	0.0121
20	4.0	35	0.0027	1.0000	0.0027
21	4.5	36	0.0108	1.0000	0.0108
22	1.3	10	0.1500	1.0000	0.1500
23	4.8	30	0.0081	1.0000	0.0081
24	4.8	30	0.0014	1.0000	0.0014
25	4.8	30	0.0027	1.0000	0.0027
26	4.8	30	0.0014	1.0000	0.0014
27	2.8	26	0.0003	1.0000	0.0003
28	3.3	27	0.0012	1.0000	0.0012
29	4.7	28	0.0729	1.0000	0.0729
30	4.7	28	0.0121	1.0000	0.0121
31	4.7	28	0.0243	1.0000	0.0243

FIGURE C-30

PSS SCENARIO 1  
 SORTIE NUMBER 14

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 1.0

SELECTED CRAFT:

PWB 32  
 DISPLACEMENT 9 TONS  
 DESIGN SPEED 25 KNOTS  
 FUEL FRACTION 0.43

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
		1			
PATROL		70101			
	*SLOW PATROL	70102	1.6	19	1.00
		4			
		3			
STEAM		150101			
	*TRANSIT	150102	0.2	6	1.00
		5			
FIGHT FIRE		30101			
	*FIGHT FIRE FROM CG VESSL	30102	2.0	4	1.00
		8			
STEAM		150201			
	*TRANSIT	150202	0.2	6	1.00
		2			
TIME TO COMPLETE SORTIE (HRS)			4.1		
FUEL CONSUMED IN SORTIE (GALS)				36	
SORTIE PROBABILITY OF SUCCESS					1.0000
SORTIE FREQUENCY OF OCCURRENCE					0.0003

FIGURE C-29

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

PSS SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 1.0

SELECTED CRAFT:

PWB 32  
 DISPLACEMENT 9 TONS  
 DESIGN SPEED 25 KNOTS  
 FUEL FRACTION 0.43

FRACTION OF SCENARIO COMPLETED 0.9865

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FUEL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	4.5	21	0.0162	1.0000	0.0162
2	4.5	21	0.0027	1.0000	0.0027
3	4.5	21	0.0054	1.0000	0.0054
4	4.5	21	0.0027	1.0000	0.0027
5	2.5	17	0.0006	1.0000	0.0006
6	3.0	16	0.0024	1.0000	0.0024
7	4.4	20	0.1458	1.0000	0.1458
8	4.4	20	0.0243	1.0000	0.0243
9	4.4	20	0.0486	1.0000	0.0486
10	4.4	20	0.0243	1.0000	0.0243
11	2.4	16	0.0054	1.0000	0.0054
12	2.9	17	0.0216	1.0000	0.0216
13	2.6	21	0.1500	1.0000	0.1500
14	4.1	36	0.0003	1.0000	0.0003
15	4.6	37	0.0012	1.0000	0.0012
16	6.0	39	0.0729	1.0000	0.0729
17	6.0	39	0.0121	1.0000	0.0121
18	6.0	39	0.0243	1.0000	0.0243
19	6.0	39	0.0121	1.0000	0.0121
20	4.0	35	0.0027	1.0000	0.0027
21	4.5	36	0.0108	1.0000	0.0108
22	1.3	10	0.1500	1.0000	0.1500
23	4.8	30	0.0081	1.0000	0.0081
24	4.8	30	0.0014	1.0000	0.0014
25	4.8	30	0.0027	1.0000	0.0027
26	4.8	30	0.0014	1.0000	0.0014
27	2.8	26	0.0003	1.0000	0.0003
28	3.3	27	0.0012	1.0000	0.0012
29	4.7	28	0.0729	1.0000	0.0729
30	4.7	28	0.0121	1.0000	0.0121
31	4.7	28	0.0243	1.0000	0.0243

FIGURE C-30

32	4.7	28	0.0121	1.0000	0.0121
33	2.7	24	0.0027	1.0000	0.0027
34	3.2	25	0.0108	1.0000	0.0108
35	2.5	17	0.0040	0.0	0.0
36	4.7	21	0.0100	0.0	0.0
37	1.5	15	0.0020	0.0	0.0
38	2.5	17	0.0040	0.0	0.0
39	3.5	19	0.0160	0.0	0.0
40	5.7	23	0.0400	0.0	0.0
41	2.5	17	0.0060	0.0	0.0
42	3.5	19	0.0160	0.0	0.0

FIGURE C-30  
(continued)

PSS SCENARIO 1  
 SORTIE NUMBER 18

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 2.5

SELECTED CRAFT:

PWB 32  
 DISPLACEMENT 9 TONS  
 DESIGN SPEED 25 KNOTS  
 FUEL FRACTION 0.43

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
		1			
PATROL		70101			
	*PATROL	70103	0.4	11	0.70
		70102			
		4			
MONITOR		60101			
	*MONITOR ACTIVITIES	60102	1.0	1	0.70
		2			
TIME TO COMPLETE SORTIE (HRS)			1.4		
FUEL CONSUMED IN SORTIE (GALS)				13	
SORTIE PROBABILITY OF SUCCESS					0.7000
SORTIE FREQUENCY OF OCCURRENCE					0.1500

FIGURE C-31

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

PSS SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 2.5

SELECTED CRAFT:

PWB 32  
 DISPLACEMENT 9 TONS  
 DESIGN SPEED 25 KNOTS  
 FUEL FRACTION 0.43

FRACTION OF SCENARIO COMPLETED 0.8650

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FUEL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	4.6	25	0.0162	0.7000	0.0113
2	4.6	25	0.0027	0.7000	0.0019
3	4.6	25	0.0054	0.7000	0.0038
4	4.6	25	0.0027	0.7000	0.0019
5	2.6	21	0.0006	0.7000	0.0004
6	3.1	22	0.0024	0.7000	0.0017
7	4.5	23	0.1458	0.7000	0.1021
8	4.5	23	0.0243	0.7000	0.0170
9	4.5	23	0.0486	0.7000	0.0340
10	4.5	23	0.0243	0.7000	0.0170
11	2.5	19	0.0054	0.7000	0.0038
12	3.0	20	0.0216	0.7000	0.0151
13	2.6	20	0.1500	0.7000	0.1050
14	4.2	40	0.0003	0.7000	0.0002
15	4.7	41	0.0012	0.7000	0.0008
16	4.1	38	0.0027	0.7000	0.0019
17	4.6	39	0.0108	0.7000	0.0076
18	1.4	13	0.1500	0.7000	0.1050
19	5.0	36	0.0081	0.7000	0.0057
20	5.0	36	0.0014	0.7000	0.0009
21	5.0	36	0.0027	0.7000	0.0019
22	5.0	36	0.0014	0.7000	0.0009
23	3.0	32	0.0003	0.7000	0.0002
24	3.5	33	0.0012	0.7000	0.0008
25	4.9	35	0.0729	0.7000	0.0510
26	4.9	35	0.0121	0.7000	0.0085
27	4.9	35	0.0243	0.7000	0.0170
28	4.9	35	0.0121	0.7000	0.0085
29	2.9	31	0.0027	0.7000	0.0019
30	3.4	32	0.0108	0.7000	0.0076
31	2.6	21	0.0040	0.0	0.0
32	4.8	25	0.0100	0.0	0.0
33	1.6	19	0.0020	0.0	0.0
34	2.6	21	0.0040	0.0	0.0
35	3.6	23	0.0160	0.0	0.0
36	5.8	27	0.0400	0.0	0.0
37	2.6	21	0.0080	0.0	0.0
38	3.6	23	0.0160	0.0	0.0

C-33

FIGURE C-32

PSS SCENARIO 1  
 SORTIE NUMBER 8

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 1.0

SELECTED CRAFT:

AIR CUSHION VEHICLE-HIGH P/L  
 DISPLACEMENT 15 TONS  
 DESIGN SPEED 50 KNOTS  
 FUEL FRACTION 0.25

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
		1			
		3			
STEAM		150101			
	*DASH	150103	0.1	12	0.95
		150102			
		5			
MONITOR		60201			
	*MONITOR OIL SPILLS	60203	4.0	113	1.00
		60202			
		7			
		8			
STEAM		150201			
	*TRANSIT	150202	0.1	11	0.98
		2			
TIME TO COMPLETE SORTIE (HRS)			4.2		
FUEL CONSUMED IN SORTIE (GALS)				137	
SORTIE PROBABILITY OF SUCCESS					0.9550
SORTIE FREQUENCY OF OCCURRENCE					0.0243

FIGURE C-33

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

PSS SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 1.0

SELECTED CRAFT:

AIR CUSHION VEHICLE-HIGH P/L  
 DISPLACEMENT 15 TONS  
 DESIGN SPEED 50 KNOTS  
 FUEL FRACTION 0.25

FRACTION OF SCENARIO COMPLETED 1.0000

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FULL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	4.2	136	0.0162	0.9760	0.0158
2	4.2	136	0.0027	0.9760	0.0026
3	4.2	136	0.0054	0.9760	0.0053
4	4.2	136	0.0027	0.9760	0.0026
5	2.2	79	0.0006	0.9760	0.0006
6	2.7	93	0.0024	0.9760	0.0023
7	4.2	137	0.1458	0.9550	0.1392
8	4.2	137	0.0243	0.9550	0.0232
9	4.2	137	0.0486	0.9550	0.0464
10	4.2	137	0.0243	0.9550	0.0232
11	2.2	80	0.0054	0.9550	0.0052
12	2.7	95	0.0216	0.9550	0.0206
13	2.6	144	0.1500	0.9850	0.1477
14	5.8	251	0.0081	0.9760	0.0079
15	5.8	251	0.0014	0.9760	0.0013
16	5.8	251	0.0027	0.9760	0.0026
17	5.8	251	0.0014	0.9760	0.0013
18	3.8	194	0.0003	0.9760	0.0003
19	4.3	209	0.0012	0.9760	0.0012
20	5.8	253	0.0729	0.9550	0.0696
21	5.8	253	0.0121	0.9550	0.0116
22	5.8	253	0.0243	0.9550	0.0232
23	5.8	253	0.0121	0.9550	0.0116
24	3.8	196	0.0027	0.9550	0.0026
25	4.3	211	0.0106	0.9550	0.0103
26	1.1	43	0.1500	0.9760	0.1464
27	4.3	150	0.0081	0.9760	0.0079
28	4.3	150	0.0014	0.9760	0.0013
29	4.3	150	0.0027	0.9760	0.0026
30	4.3	150	0.0014	0.9760	0.0013
31	2.3	93	0.0003	0.9760	0.0003

FIGURE C-34

32	2.8	108	0.0012	0.9760	0.0012
33	4.3	152	0.0729	0.9550	0.0696
34	4.3	152	0.0121	0.9550	0.0116
35	4.3	152	0.0243	0.9550	0.0232
36	4.3	152	0.0121	0.9550	0.0116
37	2.3	95	0.0027	0.9550	0.0026
38	2.8	109	0.0108	0.9550	0.0103
39	2.2	79	0.0040	0.9760	0.0039
40	4.4	141	0.0100	0.9760	0.0098
41	1.2	50	0.0020	0.9760	0.0020
42	2.2	79	0.0040	0.9760	0.0039
43	3.2	107	0.0160	0.9760	0.0156
44	5.4	170	0.0400	0.9760	0.0390
45	2.2	79	0.0080	0.9760	0.0078
46	3.2	107	0.0160	0.9760	0.0156

FIGURE C-34  
(continued)

PSS SCENARIO 1  
 SORTIE NUMBER 13

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 2.5

SELECTED CRAFT:

AIR CUSHION VEHICLE-HIGH P/L  
 DISPLACEMENT 15 TONS  
 DESIGN SPEED 50 KNOTS  
 FUEL FRACTION 0.25

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
		1			
PATROL		70101			
	*SLOW PATROL	70102	1.6	117	0.61
		4			
MONITOR		60101			
	*MONITOR ACTIVITIES	60102	1.0	28	0.70
		2			

TIME TO COMPLETE SORTIE (HRS) 2.6  
 FUEL CONSUMED IN SORTIE (GALS) 145

SORTIE PROBABILITY OF SUCCESS 0.6100  
 SORTIE FREQUENCY OF OCCURRENCE 0.1500

FIGURE C-35

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

PSS SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 2.5

SELECTED CRAFT:

AIR CUSHION VEHICLE-HIGH P/L  
 DISPLACEMENT 15 TONS  
 DESIGN SPEED 50 KNOTS  
 FUEL FRACTION 0.25

FRACTION OF SCENARIO COMPLETED 0.8650

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FUEL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	4.5	167	0.0162	0.5560	0.0090
2	4.5	167	0.0027	0.5560	0.0015
3	4.5	167	0.0054	0.5560	0.0030
4	4.5	167	0.0027	0.5560	0.0015
5	2.5	110	0.0006	0.5560	0.0003
6	3.0	124	0.0024	0.5560	0.0013
7	4.5	172	0.1458	0.4300	0.0627
8	4.5	172	0.0243	0.4300	0.0104
9	4.5	172	0.0486	0.4300	0.0209
10	4.5	172	0.0243	0.4300	0.0104
11	2.5	115	0.0054	0.4300	0.0023
12	3.0	130	0.0216	0.4300	0.0093
13	2.6	145	0.1500	0.6100	0.0915
14	4.1	227	0.0003	0.5560	0.0002
15	4.6	241	0.0012	0.5560	0.0007
16	4.1	233	0.0027	0.4300	0.0012
17	4.6	247	0.0108	0.4300	0.0046
18	1.3	63	0.1500	0.5560	0.0834
19	4.8	202	0.0081	0.5560	0.0045
20	4.8	202	0.0014	0.5560	0.0008
21	4.8	202	0.0027	0.5560	0.0015
22	4.8	202	0.0014	0.5560	0.0008
23	2.8	145	0.0003	0.5560	0.0002
24	3.3	159	0.0012	0.5560	0.0007
25	4.8	208	0.0729	0.4300	0.0313
26	4.8	208	0.0121	0.4300	0.0052
27	4.8	208	0.0243	0.4300	0.0104
28	4.8	208	0.0121	0.4300	0.0052
29	2.8	151	0.0027	0.4300	0.0012
30	3.3	165	0.0108	0.4300	0.0046
31	2.5	110	0.0040	0.5560	0.0022
32	4.7	172	0.0100	0.5560	0.0056
33	1.5	81	0.0020	0.5560	0.0011
34	2.5	110	0.0040	0.5560	0.0022
35	3.5	138	0.0160	0.5560	0.0089
36	5.7	201	0.0400	0.5560	0.0222
37	2.5	110	0.0080	0.5560	0.0044
38	3.5	138	0.0160	0.5560	0.0089

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FIGURE C-36

PSS SCENARIO 1  
 SORTIE NUMBER 42

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 1.0

SELECTED CRAFT:

UTB 41  
 DISPLACEMENT 15 TONS  
 DESIGN SPEED 26 KNOTS  
 FUEL FRACTION 0.56

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
		1			
TRANSPORT EQUIP		170101			
	*LOAD EQUIPMENT	170103	0.4	1	1.00
	*TRANSPORT EQUIPMENT	170104	0.2	8	1.00
	*UNLOAD EQUIPMENT	170102	0.6	3	1.00
		6			
WORK EQUIPMENT		180101			
	*WORK EQUIP & FIXED POS	180106	2.0	10	1.00
		180102			
		8			
STEAM		150201			
	*TRANSIT	150202	0.2	8	1.00
		2			
TIME TO COMPLETE SORTIE (HRS)			3.4		
FUEL CONSUMED IN SORTIE (GALS)				32	
SORTIE PROBABILITY OF SUCCESS					1.0000
SORTIE FREQUENCY OF OCCURRENCE					0.0160

FIGURE C-37

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

PSS SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 1.0

SELECTED CRAFT:

UTB 41  
 DISPLACEMENT 15 TONS  
 DESIGN SPEED 26 KNOTS  
 FUEL FRACTION 0.56

FRACTION OF SCENARIO COMPLETED 0.9865

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FUEL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	4.4	37	0.0162	1.0000	0.0162
2	4.4	37	0.0027	1.0000	0.0027
3	4.4	37	0.0054	1.0000	0.0054
4	4.4	37	0.0027	1.0000	0.0027
5	2.4	27	0.0006	1.0000	0.0006
6	2.9	30	0.0024	1.0000	0.0024
7	4.4	37	0.1458	1.0000	0.1458
8	4.4	37	0.0243	1.0000	0.0243
9	4.4	37	0.0486	1.0000	0.0486
10	4.4	37	0.0243	1.0000	0.0243
11	2.4	27	0.0054	1.0000	0.0054
12	2.9	30	0.0216	1.0000	0.0216
13	2.6	37	0.1500	1.0000	0.1500
14	4.0	60	0.0003	1.0000	0.0003
15	4.5	63	0.0012	1.0000	0.0012
16	6.0	70	0.0729	1.0000	0.0729
17	6.0	70	0.0121	1.0000	0.0121
18	6.0	70	0.0243	1.0000	0.0243
19	6.0	70	0.0121	1.0000	0.0121
20	4.0	60	0.0027	1.0000	0.0027
21	4.5	63	0.0108	1.0000	0.0108
22	1.3	16	0.1500	1.0000	0.1500
23	4.7	49	0.0081	1.0000	0.0081
24	4.7	49	0.0014	1.0000	0.0014
25	4.7	49	0.0027	1.0000	0.0027
26	4.7	49	0.0014	1.0000	0.0014
27	2.7	39	0.0003	1.0000	0.0003
28	3.2	42	0.0012	1.0000	0.0012
29	4.6	49	0.0729	1.0000	0.0729
30	4.6	49	0.0121	1.0000	0.0121
31	4.6	49	0.0243	1.0000	0.0243

FIGURE C-38

32	4.6	49	0.0121	1.0000	0.0121
33	2.6	34	0.0027	1.0000	0.0027
34	3.1	42	0.0108	1.0000	0.0108
35	2.4	27	0.0040	1.0000	0.0040
36	4.6	36	0.0100	1.0000	0.0100
37	1.4	22	0.0020	1.0000	0.0020
38	2.4	27	0.0040	1.0000	0.0040
39	3.4	32	0.0160	1.0000	0.0160
40	5.6	43	0.0400	1.0000	0.0400
41	2.4	27	0.0080	1.0000	0.0080
42	3.4	32	0.0160	1.0000	0.0160

FIGURE C-38  
(continued)

PSS SCENARIO 1  
 SORTIE NUMBER 3

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 2.5

SELECTED CRAFT:

UTB 41  
 DISPLACEMENT 15 TONS  
 DESIGN SPEED 26 KNOTS  
 FUEL FRACTION 0.56

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
		1			
		3			
STEAM		150101			
	*TRANSIT	150102	0.3	11	0.78
		5			
MONITOR		60201			
	*ON SCENE COMMANDER	60204	4.0	19	0.85
		60202			
		7			
		8			
STEAM		150201			
	*TRANSIT	150202	0.3	11	0.78
		2			
TIME TO COMPLETE SORTIE (HRS)			4.6		
FUEL CONSUMED IN SORTIE (GALS)				43	
SORTIE PROBABILITY OF SUCCESS					0.7751
SORTIE FREQUENCY OF OCCURRENCE					0.0054

FIGURE C-39

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

PSS SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 2.5

SELECTED CRAFT:

UTB 41  
 DISPLACEMENT 15 TONS  
 DESIGN SPEED 26 KNOTS  
 FUEL FRACTION 0.56

FRACTION OF SCENARIO COMPLETED 0.8650

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FUEL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	4.6	43	0.0162	0.7751	0.0126
2	4.6	43	0.0027	0.7751	0.0021
3	4.6	43	0.0054	0.7751	0.0042
4	4.6	43	0.0027	0.7751	0.0021
5	2.6	33	0.0006	0.7751	0.0005
6	3.1	35	0.0024	0.7751	0.0019
7	4.5	43	0.1458	0.7569	0.1104
8	4.5	43	0.0243	0.7569	0.0184
9	4.5	43	0.0486	0.7569	0.0368
10	4.5	43	0.0243	0.7569	0.0184
11	2.5	33	0.0054	0.7569	0.0041
12	3.0	35	0.0216	0.7569	0.0163
13	2.6	37	0.1500	0.8500	0.1275
14	4.2	65	0.0003	0.7751	0.0002
15	4.7	67	0.0012	0.7751	0.0009
16	4.1	65	0.0027	0.7569	0.0020
17	4.6	67	0.0108	0.7569	0.0082
18	1.4	20	0.1500	0.7751	0.1163
19	5.0	59	0.0081	0.7751	0.0063
20	5.0	59	0.0014	0.7751	0.0010
21	5.0	59	0.0027	0.7751	0.0021
22	5.0	59	0.0014	0.7751	0.0010
23	3.0	49	0.0003	0.7751	0.0002
24	3.5	51	0.0012	0.7751	0.0009
25	4.9	58	0.0729	0.7569	0.0552
26	4.9	58	0.0121	0.7569	0.0092
27	4.9	58	0.0243	0.7569	0.0184
28	4.9	58	0.0121	0.7569	0.0092
29	2.9	48	0.0027	0.7569	0.0020
30	3.4	51	0.0108	0.7569	0.0082
31	2.6	33	0.0040	0.7751	0.0031
32	4.8	44	0.0100	0.7751	0.0078
33	1.6	28	0.0020	0.7751	0.0016
34	2.6	33	0.0040	0.7751	0.0031
35	3.6	38	0.0160	0.7751	0.0124
36	5.8	49	0.0400	0.7751	0.0310
37	2.6	33	0.0080	0.7751	0.0062
38	3.6	38	0.0160	0.7751	0.0124

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FIGURE C-40

PSS SCENARIO 1  
 SORTIE NUMBER 7

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 1.0

SELECTED CRAFT:

HYBRID VESSEL  
 DISPLACEMENT 25 TONS  
 DESIGN SPEED 35 KNOTS  
 FUEL FRACTION 0.25

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
		1			
		3			
STEAM	*LASH	150101			
		150103	0.1	2	1.00
		150102			
		5			
MONITOR	*MONITOR ACTIVITIES	60201			
		60202	4.0	12	1.00
		7			
		8			
STEAM	*TRANSIT	150201			
		150202	0.1	2	1.00
		2			
TIME TO COMPLETE SORTIE (HRS)			4.2		
FUEL CONSUMED IN SORTIE (GALS)				17	
SORTIE PROBABILITY OF SUCCESS					1.0000
SORTIE FREQUENCY OF OCCURRENCE					0.1458

FIGURE C-41

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

PSS SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 1.0

SELECTED CRAFT:

HYBRID VESSEL  
 DISPLACEMENT 25 TONS  
 DESIGN SPEED 35 KNOTS  
 FUEL FRACTION 0.25

FRACTION OF SCENARIO COMPLETED 1.0000

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FUEL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	4.2	17	0.0162	1.0000	0.0162
2	4.2	17	0.0027	1.0000	0.0027
3	4.2	17	0.0054	1.0000	0.0054
4	4.2	17	0.0027	1.0000	0.0027
5	2.2	11	0.0006	1.0000	0.0006
6	2.7	12	0.0024	1.0000	0.0024
7	4.2	17	0.1458	1.0000	0.1458
8	4.2	17	0.0243	1.0000	0.0243
9	4.2	17	0.0486	1.0000	0.0486
10	4.2	17	0.0243	1.0000	0.0243
11	2.2	11	0.0054	1.0000	0.0054
12	2.7	12	0.0216	1.0000	0.0216
13	2.6	19	0.1500	1.0000	0.1500
14	5.8	34	0.0081	1.0000	0.0081
15	5.8	34	0.0014	1.0000	0.0014
16	5.8	34	0.0027	1.0000	0.0027
17	5.8	34	0.0014	1.0000	0.0014
18	3.8	27	0.0003	1.0000	0.0003
19	4.3	29	0.0012	1.0000	0.0012
20	5.8	34	0.0729	1.0000	0.0729
21	5.8	34	0.0121	1.0000	0.0121
22	5.8	34	0.0243	1.0000	0.0243
23	5.8	34	0.0121	1.0000	0.0121
24	3.8	28	0.0027	1.0000	0.0027
25	4.3	29	0.0108	1.0000	0.0108
26	1.1	6	0.1500	1.0000	0.1500
27	4.4	20	0.0081	1.0000	0.0081
28	4.4	20	0.0014	1.0000	0.0014
29	4.4	20	0.0027	1.0000	0.0027
30	4.4	20	0.0014	1.0000	0.0014
31	2.4	14	0.0003	1.0000	0.0003

FIGURE C-42

32	2.9	15	0.0012	1.0000	0.0012
33	4.4	20	0.0729	1.0000	0.0729
34	4.4	20	0.0121	1.0000	0.0121
35	4.4	20	0.0243	1.0000	0.0243
36	4.4	20	0.0121	1.0000	0.0121
37	2.4	14	0.0027	1.0000	0.0027
38	2.9	16	0.0108	1.0000	0.0108
39	2.2	11	0.0040	1.0000	0.0040
40	4.4	17	0.0100	1.0000	0.0100
41	1.2	8	0.0020	1.0000	0.0020
42	2.2	11	0.0040	1.0000	0.0040
43	3.2	14	0.0160	1.0000	0.0160
44	5.4	20	0.0400	1.0000	0.0400
45	2.2	11	0.0080	1.0000	0.0080
46	3.2	14	0.0160	1.0000	0.0160

FIGURE C-42  
(continued)

PSS SCENARIO 1  
 SORTIE NUMBER 17

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 2.5

SELECTED CRAFT:

HYBRID VESSEL  
 DISPLACEMENT 25 TONS  
 DESIGN SPEED 35 KNOTS  
 FUEL FRACTION 0.25

GROUP NAME	TASK NAME	LOCATION CODE	TASK TIME (HRS)	TASK FUEL (GALS)	TASK POS
		1			
PATROL		70101			
	*SLOW PATROL	70102	1.6	16	0.85
		4			
		3			
STEAM		150101			
	*TRANSIT	150102	0.2	3	0.85
		5			
MONITOR		60201			
	*STAKEOUT SPEC INT VESSEL	60205	4.0	12	0.85
		60202			
		7			
		8			
STEAM		150201			
	*TRANSIT	150202	0.2	3	0.85
		2			
TIME TO COMPLETE SORTIE (HRS)			5.9		
FUEL CONSUMED IN SORTIE (GALS)				35	
SORTIE PROBABILITY OF SUCCESS					0.8500
SORTIE FREQUENCY OF OCCURRENCE					0.0014

FIGURE C-44

\*\*\*\*\* SORTIE SUMMARY \*\*\*\*\*

PSS SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 2.5

SELECTED CRAFT:

HYBRID VESSEL  
 DISPLACEMENT 25 TONS  
 DESIGN SPEED 35 KNOTS  
 FUEL FRACTION 0.25

FRACTION OF SCENARIO COMPLETED 1.0000

SORTIE NO.	SORTIE TIME (HRS)	SORTIE FULL (GALS)	FREQUENCY OF OCCURRENCE	SORTIE PROBABILITY OF SUCCESS	SORTIE SUCCESSFUL OCCURRENCE
1	4.3	19	0.0162	0.8500	0.0138
2	4.3	19	0.0027	0.8500	0.0023
3	4.3	19	0.0054	0.8500	0.0046
4	4.3	19	0.0027	0.8500	0.0023
5	2.3	13	0.0006	0.8500	0.0005
6	2.8	14	0.0024	0.8500	0.0020
7	4.3	19	0.1458	0.7536	0.1099
8	4.3	19	0.0243	0.7536	0.0183
9	4.3	19	0.0486	0.7536	0.0366
10	4.3	19	0.0243	0.7536	0.0183
11	2.3	13	0.0054	0.7536	0.0041
12	2.8	15	0.0216	0.7536	0.0163
13	2.6	19	0.1500	0.8500	0.1275
14	5.9	35	0.0081	0.8500	0.0069
15	5.9	35	0.0014	0.8500	0.0011
16	5.9	35	0.0027	0.8500	0.0023
17	5.9	35	0.0014	0.8500	0.0011
18	3.9	29	0.0003	0.8500	0.0003
19	4.4	31	0.0012	0.8500	0.0010
20	5.9	36	0.0729	0.7536	0.0549
21	5.9	36	0.0121	0.7536	0.0092
22	5.9	36	0.0243	0.7536	0.0183
23	5.9	36	0.0121	0.7536	0.0092
24	3.9	30	0.0027	0.7536	0.0020
25	4.4	31	0.0108	0.7536	0.0081
26	1.2	7	0.1500	0.8500	0.1275
27	4.5	23	0.0081	0.8500	0.0069
28	4.5	23	0.0014	0.8500	0.0011
29	4.5	23	0.0027	0.8500	0.0023
30	4.5	23	0.0014	0.8500	0.0011
31	2.5	17	0.0003	0.8500	0.0003

FIGURE C-44

32	3.0	19	0.0012	0.8500	0.0010
33	4.5	24	0.0729	0.7536	0.0549
34	4.5	24	0.0121	0.7536	0.0092
35	4.5	24	0.0243	0.7536	0.0183
36	4.5	24	0.0121	0.7536	0.0092
37	2.5	18	0.0027	0.7536	0.0020
38	3.0	19	0.0108	0.7536	0.0081
39	2.3	13	0.0040	0.8500	0.0034
40	4.5	19	0.0100	0.8500	0.0085
41	1.3	10	0.0020	0.8500	0.0017
42	2.3	13	0.0040	0.8500	0.0034
43	3.3	16	0.0160	0.8500	0.0136
44	5.5	22	0.0400	0.8500	0.0340
45	2.3	13	0.0080	0.8500	0.0068
46	3.3	16	0.0160	0.8500	0.0136

FIGURE C-44  
(continued)

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

PSS SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 1.0

SELECTED CRAFT:

PWB 32  
 DISPLACEMENT 9 TONS  
 DESIGN SPEED 25 KNOTS  
 FUEL FRACTION 0.43

PERCENT OF SCENARIO COMPLETED 98.6

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO 0.89

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE 3.7 HRS  
 FUEL CONSUMED IN AVERAGE SORTIE 23.0 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
BRD	0.05	BOARD
FFF	0.01	FIGHT FIRE FROM CG VESSEL
FFO	0.05	FIGHT FIRE ON ANOTHER VESSEL
MAC	0.62	MONITOR ACTIVITIES
MOS	0.05	MONITOR OIL SPILL
OSC	0.11	ON SCENE COMMANDER (GENERAL)
RBP	0.05	RETRIEVE BOARDING PARTY
SSI	0.05	STAKEOUT SPECIAL INTEREST VESSEL
REDUCED SPEED:		
SPT	0.29	SLOW PATROL
CRUISE SPEED:		
PAT	0.30	PATROL
TRA	0.63	TRANSIT
FLANK SPEED:		
DSH	0.54	DASH

FIGURE C-45

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

PSS SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 2.5

SELECTED CRAFT:

PWb 32  
 DISPLACEMENT 9 TONS  
 DESIGN SPEED 25 KNOTS  
 FUEL FRACTION 0.43

PERCENT OF SCENARIO COMPLETED 86.5

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO 0.54

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE 3.5 HRS  
 FUEL CONSUMED IN AVERAGE SORTIE 23.6 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
BRD	0.03	BOARD
FFF	0.01	FIGHT FIRE FROM CG VESSEL
FFO	0.03	FIGHT FIRE ON ANOTHER VESSEL
MAC	0.36	MONITOR ACTIVITIES
MOS	0.03	MONITOR OIL SPILL
OSC	0.06	ON SCENE COMMANDER (GENERAL)
RBP	0.03	RETRIEVE BOARDING PARTY
SSI	0.03	STAKEOUT SPECIAL INTEREST VESSEL
REDUCED SPEED:		
SPT	0.12	SLOW PATROL
CRUISE SPEED:		
PAT	0.21	PATROL
TRA	0.36	TRANSIT
FLANK SPEED:		
DSH	0.29	DASH

FIGURE C-46

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

PSS SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 1.0

SELECTED CRAFT:

AIR CUSHION VEHICLE-HIGH P/L  
 DISPLACEMENT 15 TONS  
 DESIGN SPEED 50 KNOTS  
 FUEL FRACTION 0.25

PERCENT OF SCENARIO COMPLETED 100.0

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO 0.97

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE 3.6 HRS  
 FUEL CONSUMED IN AVERAGE SORTIE 140.4 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
BRD	0.05	BOARD
FFF	0.01	FIGHT FIRE FROM CG VESSEL
FFO	0.05	FIGHT FIRE ON ANOTHER VESSEL
LEQ	0.08	LOAD EQUIPMENT
LSB	0.05	LAUNCH SMALL BOAT
MAC	0.60	MONITOR ACTIVITIES
MOS	0.05	MONITOR OIL SPILL
OSC	0.10	ON SCENE COMMANDER (GENERAL)
RBP	0.05	RETRIEVE BOARDING PARTY
RSB	0.05	RETRIEVE SMALL BOAT
SSI	0.05	STAKEOUT SPECIAL INTEREST VESSEL
TWS	0.01	TAKE WATER SAMPLE
ULQ	0.08	UNLOAD EQUIPMENT
WQB	0.05	WORK EQUIPMENT FROM SMALL BOAT
WQD	0.02	WORK EQUIPMENT @ DRIFT
WQF	0.02	WORK EQUIPMENT @ FIXED POSITION
REDUCED SPEED:		
SPT	0.29	SLOW PATROL
CRUISE SPEED:		
PAT	0.29	PATROL
TEQ	0.10	TRANSPORT EQUIPMENT
TRA	0.73	TRANSIT
FLANK SPEED:		
DSH	0.52	DASH

FIGURE C-47

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

PSS SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.50  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 2.5

SELECTED CRAFT:

AIR CUSHION VEHICLE-HIGH P/L  
 DISPLACEMENT 15 TONS  
 DESIGN SPEED 50 KNOTS  
 FUEL FRACTION 0.25

PERCENT OF SCENARIO COMPLETED 86.5

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO 0.44

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE 3.4 HRS  
 FUEL CONSUMED IN AVERAGE SORTIE 149.0 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
BRD	0.02	BOARD
FFF	0.01	FIGHT FIRE FROM CG VESSEL
FFO	0.02	FIGHT FIRE ON ANOTHER VESSEL
LEQ	0.04	LOAD EQUIPMENT
LSB	0.03	LAUNCH SMALL BOAT
MAC	0.28	MONITOR ACTIVITIES
MOS	0.02	MONITOR OIL SPILL
OSC	0.04	ON SCENE COMMANDER (GENERAL)
RBP	0.02	RETRIEVE BOARDING PARTY
RSB	0.03	RETRIEVE SMALL BOAT
SSI	0.02	STAKEOUT SPECIAL INTEREST VESSEL
TWS	0.01	TAKE WATER SAMPLE
ULQ	0.04	UNLOAD EQUIPMENT
WQB	0.03	WORK EQUIPMENT FROM SMALL BOAT
WQD	0.01	WORK EQUIPMENT @ DRIFT
WQF	0.01	WORK EQUIPMENT @ FIXED POSITION
REDUCED SPEED:		
SPT	0.10	SLOW PATROL
CRUISE SPEED:		
PAT	0.15	PATROL
TEQ	0.06	TRANSPORT EQUIPMENT
TRA	0.29	TRANSIT
FLANK SPEED:		
DSH	0.18	DASH

FIGURE C-48

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

PSS SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 1.0

SELECTED CRAFT:

UTB 41  
 DISPLACEMENT 15 TONS  
 DESIGN SPEED 26 KNOTS  
 FUEL FRACTION 0.56

PERCENT OF SCENARIO COMPLETED 98.6

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO 0.99

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE 3.8 HRS  
 FUEL CONSUMED IN AVERAGE SORTIE 40.5 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
BRD	0.05	BOARD
FFF	0.01	FIGHT FIRE FROM CG VESSEL
FFO	0.05	FIGHT FIRE ON ANOTHER VESSEL
LEQ	0.08	LOAD EQUIPMENT
LSB	0.05	LAUNCH SMALL BOAT
MAC	0.62	MONITOR ACTIVITIES
MOS	0.05	MONITOR OIL SPILL
CSC	0.11	ON SCENE COMMANDER (GENERAL)
RBP	0.05	RETRIEVE BOARDING PARTY
RSB	0.05	RETRIEVE SMALL BOAT
SSI	0.05	STAKEOUT SPECIAL INTEREST VESSEL
TWS	0.01	TAKE WATER SAMPLE
ULQ	0.08	UNLOAD EQUIPMENT
WQB	0.05	WORK EQUIPMENT FROM SMALL BOAT
WQD	0.02	WORK EQUIPMENT @ DRIFT
WQF	0.02	WORK EQUIPMENT @ FIXED POSITION
REDUCED SPEED:		
SPT	0.29	SLOW PATROL
CRUISE SPEED:		
PAT	0.30	PATROL
TEQ	0.10	TRANSPORT EQUIPMENT
TRA	0.73	TRANSIT
FLANK SPEED:		
DSH	0.54	DASH

FIGURE C-49

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

PSS SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 2.5

SELECTED CRAFT:

UTB 41  
 DISPLACEMENT 15 TONS  
 DESIGN SPEED 26 KNOTS  
 FUEL FRACTION 0.56

PERCENT OF SCENARIO COMPLETED 86.5

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO 0.67

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE 3.6 HRS  
 FUEL CONSUMED IN AVERAGE SORTIE 40.7 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
BRD	0.04	BOARD
FFF	0.01	FIGHT FIRE FROM CG VESSEL
FFO	0.04	FIGHT FIRE ON ANOTHER VESSEL
LEG	0.06	LOAD EQUIPMENT
LSB	0.04	LAUNCH SMALL BOAT
MAC	0.43	MONITOR ACTIVITIES
MOS	0.03	MONITOR OIL SPILL
OSC	0.06	ON SCENE COMMANDER(GENERAL)
R&P	0.04	RETRIEVE BOARDING PARTY
RSB	0.04	RETRIEVE SMALL BOAT
SSI	0.03	STAKEOUT SPECIAL INTEREST VESSEL
TWS	0.01	TAKE WATER SAMPLE
ULG	0.06	UNLOAD EQUIPMENT
WQB	0.04	WORK EQUIPMENT FROM SMALL BOAT
WQD	0.02	WORK EQUIPMENT @ DRIFT
WQF	0.02	WORK EQUIPMENT @ FIXED POSITION
REDUCED SPEED:		
SPT	0.14	SLOW PATROL
CRUISE SPEED:		
PAT	0.23	PATROL
TEQ	0.08	TRANSPORT EQUIPMENT
TRA	0.47	TRANSIT
FLANK SPEED:		
DSH	0.32	DASH

FIGURE C-50

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

PSS SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 1.0

SELECTED CRAFT:

HYBRID VESSEL  
 DISPLACEMENT 25 TONS  
 DESIGN SPEED 35 KNOTS  
 FUEL FRACTION 0.25

PERCENT OF SCENARIO COMPLETED 100.0

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO 1.00

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE 3.7 HRS

FUEL CONSUMED IN AVERAGE SORTIE 18.8 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
BRD	0.05	BOARD
FFF	0.01	FIGHT FIRE FROM CG VESSEL
FFO	0.05	FIGHT FIRE ON ANOTHER VESSEL
LEG	0.08	LOAD EQUIPMENT
LSB	0.05	LAUNCH SMALL BOAT
MAC	0.62	MONITOR ACTIVITIES
MOS	0.05	MONITOR OIL SPILL
OSC	0.11	ON SCENE COMMANDER (GENERAL)
RBP	0.05	RETRIEVE BOARDING PARTY
RSB	0.05	RETRIEVE SMALL BOAT
SSI	0.05	STAKEOUT SPECIAL INTEREST VESSEL
TWS	0.01	TAKE WATER SAMPLE
ULG	0.08	UNLOAD EQUIPMENT
WGB	0.05	WORK EQUIPMENT FROM SMALL BOAT
WQD	0.02	WORK EQUIPMENT @ DRIFT
WQF	0.02	WORK EQUIPMENT @ FIXED POSITION
REDUCED SPEED:		
SPT	0.30	SLOW PATROL
CRUISE SPEED:		
PAT	0.30	PATROL
TEG	0.10	TRANSPORT EQUIPMENT
TRA	0.76	TRANSIT
FLANK SPEED:		
DSH	0.54	DASH

FIGURE C-51

\*\*\*\*\* SCENARIO OVERALL RESULTS \*\*\*\*\*

PSS SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 2.5

SELECTED CRAFT:

HYBRID VESSEL  
 DISPLACEMENT 25 TONS  
 DESIGN SPEED 35 KNOTS  
 FUEL FRACTION 0.25

PERCENT OF SCENARIO COMPLETED 100.0

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO 0.80

SPECIFICATIONS OF THE AVERAGE SORTIE:

TIME TO COMPLETE AVERAGE SORTIE 3.7 HRS

FUEL CONSUMED IN AVERAGE SORTIE 20.4 GALS

TASK COMPOSITION IN AVERAGE SORTIE:

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
BRD	0.04	BOARD
FFF	0.01	FIGHT FIRE FROM CG VESSEL
FFO	0.04	FIGHT FIRE ON ANOTHER VESSEL
LEQ	0.07	LOAD EQUIPMENT
LSB	0.04	LAUNCH SMALL BOAT
MAC	0.50	MONITOR ACTIVITIES
MOS	0.04	MONITOR OIL SPILL
OSC	0.08	ON SCENE COMMANDER (GENERAL)
RBP	0.04	RETRIEVE BOARDING PARTY
RSB	0.04	RETRIEVE SMALL BOAT
SSI	0.04	STAKEOUT SPECIAL INTEREST VESSEL
TWS	0.01	TAKE WATER SAMPLE
ULQ	0.07	UNLOAD EQUIPMENT
WQB	0.04	WORK EQUIPMENT FROM SMALL BOAT
WQD	0.02	WORK EQUIPMENT @ DRIFT
WQF	0.02	WORK EQUIPMENT @ FIXED POSITION

REDUCED SPEED:

SPT 0.24 SLOW PATROL

CRUISE SPEED:

PAT 0.24 PATROL  
 TEQ 0.08 TRANSPORT EQUIPMENT  
 TRA 0.59 TRANSIT

FLANK SPEED:

DSH 0.41 DASH

FIGURE C-52

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

PSS SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 1.0

SELECTED CRAFT:

PWB 32  
 DISPLACEMENT 9 TONS  
 DESIGN SPEED 25 KNOTS  
 FUEL FRACTION 0.43

IMPORTANT TASKS COMPLETED IN 180 DAYS OF OPERATION

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
FFF	2	FIGHT FIRE FROM CG VESSEL
FFO	9	FIGHT FIRE ON ANOTHER VESSEL
MAC	111	MONITOR ACTIVITIES
MOS	9	MONITOR OIL SPILL
OSC	19	ON SCENE COMMANDER (GENERAL)
SSI	9	STAKEOUT SPECIAL INTEREST VESSEL
TWS	0	TAKE WATER SAMPLE
WGB	0	WORK EQUIPMENT FROM SMALL BOAT
WGD	0	WORK EQUIPMENT @ DRIFT
WGF	0	WORK EQUIPMENT @ FIXED POSITION
REDUCED SPEED:		
SPT	52	SLOW PATROL
CRUISE SPEED:		
PAT	54	PATROL
FLANK SPEED:		
NO IMPORTANT TASKS SPECIFIED		

FIGURE C-53

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

PSS SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 2.5

SELECTED CRAFT:

PWB 32  
 DISPLACEMENT 9 TONS  
 DESIGN SPEED 25 KNOTS  
 FUEL FRACTION 0.43

IMPORTANT TASKS COMPLETED IN 180 DAYS OF OPERATION

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
FFF	2	FIGHT FIRE FROM CG VESSEL
FFU	0	FIGHT FIRE ON ANOTHER VESSEL
MAC	68	MONITOR ACTIVITIES
MUS	5	MONITOR OIL SPILL
OSC	10	ON SCENE COMMANDER (GENERAL)
SSI	5	STAKEOUT SPECIAL INTEREST VESSEL
TWS	0	TAKE WATER SAMPLE
WQB	0	WORK EQUIPMENT FROM SMALL BOAT
WGD	0	WORK EQUIPMENT @ DRIFT
WGF	0	WORK EQUIPMENT @ FIXED POSITION
REDUCED SPEED:		
SPT	21	SLOW PATROL
CRUISE SPEED:		
PAT	38	PATROL
FLANK SPEED:		
NO IMPORTANT TASKS SPECIFIED		

FIGURE C-54

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

PSS SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 1.0

SELECTED CRAFT:

AIR CUSHION VEHICLE-HIGH P/L  
 DISPLACEMENT 15 TONS  
 DESIGN SPEED 50 KNOTS  
 FUEL FRACTION 0.25

IMPORTANT TASKS COMPLETED IN 180 DAYS OF OPERATION

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
FFF	2	FIGHT FIRE FROM CG VESSEL
FFO	3	FIGHT FIRE ON ANOTHER VESSEL
MAC	109	MONITOR ACTIVITIES
MOS	9	MONITOR OIL SPILL
OSC	19	ON SCENE COMMANDER(GENERAL)
SSI	9	STAKEOUT SPECIAL INTEREST VESSEL
TWS	2	TAKE WATER SAMPLE
WGB	9	WORK EQUIPMENT FROM SMALL BOAT
WGD	4	WORK EQUIPMENT @ DRIFT
WGF	4	WORK EQUIPMENT @ FIXED POSITION
REDUCED SPEED:		
SPT	52	SLOW PATROL
CRUISE SPEED:		
PAT	52	PATROL
FLANK SPEED:		
NO IMPORTANT TASKS SPECIFIED		

FIGURE C-55

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

PSS SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 2.5

SELECTED CRAFT:

AIR CUSHION VEHICLE-HIGH P/L  
 DISPLACEMENT 15 TONS  
 DESIGN SPEED 50 KNOTS  
 FUEL FRACTION 0.25

IMPORTANT TASKS COMPLETED IN 180 DAYS OF OPERATION

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
FFF	1	FIGHT FIRE FROM CG VESSEL
FFO	4	FIGHT FIRE ON ANOTHER VESSEL
MAC	51	MONITOR ACTIVITIES
MOS	3	MONITOR OIL SPILL
OSC	6	ON SCENE COMMANDER(GENERAL)
SSI	3	STAKEOUT SPECIAL INTEREST VESSEL
TWS	1	TAKE WATER SAMPLE
WQB	5	WORK EQUIPMENT FROM SMALL BOAT
WQD	2	WORK EQUIPMENT @ DRIFT
WGF	2	WORK EQUIPMENT @ FIXED POSITION
REDUCED SPEED:		
SPT	18	SLOW PATROL
CRUISE SPEED:		
PAT	27	PATROL
FLANK SPEED:		
NO IMPORTANT TASKS SPECIFIED		

FIGURE C-56

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

PSS SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY VERY GOOD  
 AVERAGE SEA STATE 1.0

SELECTED CRAFT:

UTB 41  
 DISPLACEMENT 15 TONS  
 DESIGN SPEED 26 KNOTS  
 FUEL FRACTION 0.56

IMPORTANT TASKS COMPLETED IN 180 DAYS OF OPERATION

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
FFF	2	FIGHT FIRE FROM CG VESSEL
FFO	9	FIGHT FIRE ON ANOTHER VESSEL
MAC	111	MONITOR ACTIVITIES
MUS	9	MONITOR OIL SPILL
OSC	19	ON SCENE COMMANDER(GENERAL)
SSI	9	STAKEOUT SPECIAL INTEREST VESSEL
TWS	2	TAKE WATER SAMPLE
WGB	9	WORK EQUIPMENT FROM SMALL BOAT
WGD	4	WORK EQUIPMENT @ DRIFT
WGF	4	WORK EQUIPMENT @ FIXED POSITION
REDUCED SPEED:		
SPT	52	SLOW PATROL
CRUISE SPEED:		
PAT	54	PATROL
FLANK SPEED:		
NO IMPORTANT TASKS SPECIFIED		

FIGURE C-57

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

PSS SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 2.5

SELECTED CRAFT:

UTB 41  
 DISPLACEMENT 15 TONS  
 DESIGN SPEED 26 KNOTS  
 FUEL FRACTION 0.56

IMPORTANT TASKS COMPLETED IN 180 DAYS OF OPERATION

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
FFF	2	FIGHT FIRE FROM CG VESSEL
FFO	7	FIGHT FIRE ON ANOTHER VESSEL
MAC	77	MONITOR ACTIVITIES
MOS	6	MONITOR OIL SPILL
OSC	11	ON SCENE COMMANDER (GENERAL)
SSI	6	STAKEOUT SPECIAL INTEREST VESSEL
TWS	1	TAKE WATER SAMPLE
WQB	7	WORK EQUIPMENT FROM SMALL BOAT
WGD	3	WORK EQUIPMENT @ DRIFT
WGF	3	WORK EQUIPMENT @ FIXED POSITION
REDUCED SPEED:		
SPT	25	SLOW PATROL
CRUISE SPEED:		
PAT	41	PATROL
FLANK SPEED:		
NO IMPORTANT TASKS SPECIFIED		

FIGURE C-58

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

PSS SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
RANGE FRACTION 0.90  
VISIBILITY VERY GOOD  
AVERAGE SEA STATE 1.0

SELECTED CRAFT:

HYBRID VESSEL  
DISPLACEMENT 25 TONS  
DESIGN SPEED 35 KNOTS  
FUEL FRACTION 0.25

IMPORTANT TASKS COMPLETED IN 180 DAYS OF OPERATION

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
FFF	2	FIGHT FIRE FROM CG VESSEL
FFU	9	FIGHT FIRE ON ANOTHER VESSEL
MAC	112	MONITOR ACTIVITIES
MOS	10	MONITOR OIL SPILL
OSC	19	ON SCENE COMMANDER(GENERAL)
SSI	10	STAKEOUT SPECIAL INTEREST VESSEL
TWS	2	TAKE WATER SAMPLE
WGB	9	WORK EQUIPMENT FROM SMALL BOAT
WQU	4	WORK EQUIPMENT @ DRIFT
WQF	4	WORK EQUIPMENT @ FIXED POSITION
REDUCED SPEED:		
SPT	54	SLOW PATROL
CRUISE SPEED:		
PAT	54	PATROL
FLANK SPEED:		
NO IMPORTANT TASKS SPECIFIED		

FIGURE C-59

\*\*\*\*\* SCENARIO EVALUATION \*\*\*\*\*

PSS SCENARIO 1

OPERATIONAL REQUIREMENTS:

MAXIMUM DURATION 6.0 HOURS  
 RANGE FRACTION 0.90  
 VISIBILITY GOOD  
 AVERAGE SEA STATE 2.5

SELECTED CRAFT:

HYBRID VESSEL  
 DISPLACEMENT 25 TONS  
 DESIGN SPEED 35 KNOTS  
 FUEL FRACTION 0.25

IMPORTANT TASKS COMPLETED IN 180 DAYS OF OPERATION

TASK CODE	TIMES COMPLETED	TASK NAME
ON SCENE:		
FFF	2	FIGHT FIRE FROM CG VESSEL
FFU	1	FIGHT FIRE ON ANOTHER VESSEL
MAC	90	MONITOR ACTIVITIES
MOS	7	MONITOR OIL SPILL
OSC	15	ON SCENE COMMANDER (GENERAL)
SSI	7	STAKEOUT SPECIAL INTEREST VESSEL
IWS	2	TAKE WATER SAMPLE
WQB	8	WORK EQUIPMENT FROM SMALL BOAT
WGD	3	WORK EQUIPMENT & DRIFT
WGF	3	WORK EQUIPMENT & FIXED POSITION
REDUCED SPEED:		
SPT	44	SLOW PATROL
CRUISE SPEED:		
PAT	44	PATROL
FLANK SPEED:		
NO IMPORTANT TASKS SPECIFIED		

FIGURE C-60

APPENDIX D

GLOSSARY AND LIST OF ABBREVIATIONS USED IN CREE MODEL REPORT

ACV - Air Cushion Vehicle

ANB - Aid to Navigation Boat

AVERAGE SORTIE - A sortie, consisting of parts of every task occurring in the scenario, obtained by weighing each sortie in the scenario by its probability of success and frequency of occurrence.

CALCOMP - California Computer (Graph Plotting Program)

CG - Coast Guard

CHAR - Craft Characteristics Computer Program

CREE MODEL - Cutter Resource Effectiveness Evaluation Model

DE - Diesel Engine

DECISION POINT PROBABILITIES - The probabilities chosen by the user at a branch point in the scenario

ELT - Enforcement of Laws and Treaties

FLOW CHART SCENARIO - A model of Coast Guard Program (scenario) in a flow chart format (like a wiring diagram)

FORCE MIX - The CREE Model does not address force mix analysis

FREQUENCY OF OCCURRENCE - The probability of occurrence (frequency is used to imply how often)

FUEL FRACTION - The fraction of useful load that is carried as fuel on board

FUNCTIONAL TASK GROUP - A group of tasks in a mini-flow chart (or module) that together model a particular activity (or function)

F<sub>F</sub> - Fuel Fraction

G-OP - Operations Planning & Staff in Coast Guard Headquarters

GT - Gas Turbine

HPWC - High Performance Water Craft

IOCS - Input Output Computer Services (Incorporated)

LNG - Liquefied Natural Gas

MASTER TASK - A single task which models a class of similar actions by the Coast Guard vessel

MEP - Marine Environmental Protection

MLB - Motor Life Boat

MRB - Motor Rescue Boat

MSA - Marine Science Activities

OPERATIONAL ACTIVITIES - Missions or functions performed by CG personnel and units. The broad partitioning of activities when analyzing CG programs.

OPERATIONAL REQUIREMENTS - Those items that are necessary to fully describe the operational choices, environment and area of operation. Examples are decision point probabilities, sea state and distances to steam.

PARAM - Parameter section of the CREE Model Computer Program

PARAMETER - A multiplying factor (indicative of an effect such as sea state upon a task) which degrades the probability of success of that task.

PERCENT OF SCENARIO COMPLETED - The percent of all of the sorties in the scenario that the craft may complete without either running out of fuel or exceeding the time limit (sortie duration) for a sortie.

POD - Probability of Detection

PROBABILITY OF SUCCESS - The ratio of the number of times an event is performed successfully to the number of times it is attempted.

PROBABILITY OF SUCCESSFULLY COMPLETING SCENARIO - The average probability of success of every sortie in the scenario. (A way to visualize this "average probability of success" is to consider the case where every sortie has an individual probability of success of either 1.0 or 0.0. The fraction of the sorties in the scenario with 1.0 would represent the probability of successfully completing the scenario.)

PROBABILITY OF SUCCESSFUL OCCURRENCE (OF A SORTIE) - The product of the sortie frequency of occurrence and the sortie probability of success.

PROPOS - Program (CG) Probability of Success element of the CREE Model Computer Program.

PSS - Port Safety & Security

PWB - Port & Waterways Boat

P/L - Pressure to length ratio; used in describing Air Cushion Vehicles

RANGE FRACTION - The fraction of the craft's fuel capacity (which equates to range) that may be expended in an operation. The remainder is the fuel reserve which may not be expended in the scenario.

R&DC - Research and Development Center

SAR - Search and Rescue

SEA STATE DISTRIBUTION - The probability distribution of sea states in a given region over the extended time of operation.

SCENARIO - A sequencing or flow of events of an operation

SES - Surface Effect Ship

SORTIE - A sequence of tasks performed by a craft with a logical beginning and end; for example, a SAR case starting from the pier, continuing through the operation, and finally terminating at the pier.

SORTIE DURATION - The maximum allowable time for any sortie in a given scenario.

SS - Sea State

SWATH - Small Waterplane Area Twin Hull

SYSTEM - Not mentioned in the CREE Model reports

TASK - The lowest level of discrete activity such as a transit or tow in a Coast Guard Program.

TOWING DISTRIBUTION - The distribution of craft, according to length or displacement, to be towed in the region of operation.

TPOS - Task Probability of Success section of the CREE Model Computer Program.

TSC - Transportation Systems Center

UTB - Utility Boat

VISIBILITY DISTRIBUTION - The distribution of visibility in the region of operation.

WHEC - High Endurance Cutter

WMEC - Medium Endurance Cutter

WPB - Patrol Boat

$\Delta$  - Displacement